EXHIBIT 1

UNITED STATES DISTRICT COURT

DISTRICT OF NEW JERSEY

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KIMBERLY COLE, ALAN COLE, JAMES MONICA, LINDA BOYD, MICHAEL MCMAHON, RAY SMINKEY, JAMES MEDDERS, JUDY MEDDERS, ROBERT PEPERNO, SARAH PEPERNO, and KELLY MCCOY, on behalf of themselves and all others similarly situated,

Plaintiffs,

vs. CIVIL ACTION NO. 13-cv-0781-FLW-TJB

NIBCO, INC.,

Defendant.

* * *

Deposition of DEBORAH PREMUS,

Witness herein, called by the Plaintiffs for cross-examination pursuant to the Rules of Civil Procedure, taken before me, Stacey M. Mortsolf, a Notary Public in and for the State of Ohio, at the Hampton Inn & Suites, 5232 Bardes Road, Mason, Ohio, on Wednesday, December 14, 2016, at 9:07 a.m.

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EXAMINATIONS CONDUCTED PAGE

EXHIBITS MARKED

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ALSO PRESENT:
Jennifer E. Kelly

* * *

DEBORAH PREMUS
of lawful age, Witness herein, having been first duly cautioned and sworn, as hereinafter certified, was examined and said as follows:
CROSS-EXAMINATION
BY MR SHAMBERG:
Q. Good morning, Ms. Premus. My name's Kyle Shamberg. I represent the plaintiffs in this lawsuit, and I'm going to be asking you some questions today, okay? To start out, could you state your full name and your date of birth for the record?
A. Yes. Deborah Susan Premus, November 22nd, 1969.
MR SHAMBERG: And before we get into the questioning, I just want to make a quick statement on the record. Jennifer Kelly is also in attendance today from Cuneo, Gilbert & LaDuca. Pursuant to agreement of counsel, she's here to observe the deposition, and she's doing that without waiving any rights with respect to her own case.
BY MR SHAMBERG:
Q. Ms. Premus, have you ever been deposed before?

A. Yes, I have.
Q. How many times?
A. Three times. This will be my fourth.
Q. Okay. Did each of those three previous depositions relate to your employment with NIBCO?
A. Yes.
Q. And one of them, I believe, was in a case that was brought by Christianson Plumbing, is that right?
A. Yes.
Q. And what were -- starting first chronologically, what were the other two depositions?
A. You know, I can't -- it's -- I can't remember at this point.
Q. Okay. Did each of those other two depositions relate to NIBCO PEX products?
A. Yes.
Q. And was it specific to the tubing?
A. Yes.
Q. Do you recall if Abbott was the name of the plaintiff in one of those cases?
A. It might have been. I don't

remember specifically which -- it's been over a year since some of those were done.
Q. Okay. And you notice there I was kind of waiting for you to finish your answer, and that's one of the ground rules that I want to go over with you today, which is that, you know, I'm going to ask questions, you're going to give answers, and I'll try to let you complete your answer and not talk over you if you let me finish my question as well; is that fair?
A. Yes.
Q. And you're doing a good job so far, but I also would advise to always answer verbally because we want to make sure the court reporter can get a good transcript. And, you know, nods of the head, shakes of the head won't come through. And I may remind you about that, and it's not to be impolite; it's just so we have a clean record, okay?
A. Okay.
Q. If I ask a question and you answer it, I'll assume you understood what my question was; so if you don't understand the question or want me to ask it again or in a different way,

can you just let me know?
A. Yes.
Q. And then we can also take a break at any time. Just say so and we'll do it. I just ask that if I have a question pending that you answer that question before we take the break, okay? Yes?
A. Yes.
Q. What did you do to prepare for today's deposition?
A. Nothing actually.
Q. Didn't review any documents?
A. No.
Q. Didn't talk to anyone?
A. Just Kevin.
Q. Just Kevin? Okay.
A. This morning.
Q. And I don't want you to tell me anything that you discussed with Kevin, but you said it was just this morning that you met with him?
A. Correct.
Q. And for approximately how long did you meet?
A. Maybe about an hour over

breakfast.
Q. Okay. But you didn't look at any documents?
A. No.
Q. Didn't take any notes?
A. No.
Q. So I want to go through a little bit of your employment history, but first let's start with what's the highest educational level you've received?
A. I have a master's degree in biological sciences.
Q. Okay. Master's in biological sciences. What year did you receive that master's degree?
A. I believe -- I haven't updated my resume in a while. I believe it was about 1996.
Q. Okay. So somewhere around 20 years ago?
A. Right.
Q. And what was the first -- when you said the master's degree was in biological sciences, did you also have a bachelor's degree, I assume?

A. Yes, in the same field of study.
Q. Biological sciences?
A. Correct.
Q. What was your first job after you obtained that master's degree in biological sciences?
A. Actually, when I got out, I worked in a funding and delivery system project for the Dayton Business Committee. And that was just a temporary short-time assignment prior to my first industry position.
Q. Okay. So that was -- did that job relate specifically to your degree in biological sciences?
A. No. It was just, you know, when I got out, the job market was kind of tight for people with my degree, and so it was kind of a short -- knowing it was a short-term, you know, not long-term assignment until which time I found employment in my field.
Q. Okay. So let's talk about that. What was the first job you had in what you call your field?
A. A company called Amole.
Q. Amole?

A. A M O L E. Correct.
Q. And what was your job at Amole?
A. I was the microbiology manager. Actually, it was a technician, but I was the lead in that department.
Q. Okay. And what does Amole do?
A. They're no longer in business. They manufactured personal care products and over-the-counter drug products.
Q. Okay. What were your job responsibilities at Amole?
A. My responsibilities were to basically maintain the document system of test methods to product test to make sure that the product -- the written specifications that we had for, you know, what we manufactured and also to audit the facility to make sure that we adhered to our manufacturing standards.
Q. Okay. Did that job relate in any way to the manufacture of plumbing products?
A. The type of product that they made did not; however, some of the same general procedures such as having the document control system, such as having industry standards, such as having external auditors and agencies, was,

in fact, similar to the type of business that we have with NIBCO.
Q. Sort of general quality assurance?
A. General quality assurance methods.
Q. I was just making sure you were done with your answer.
A. Right.
Q. How long were you at Amole then?
A. You know, it's been a long time since I've looked at my resume. I was there until the company went out of business. It was one or two years. I can't remember exactly.
Q. Okay. And that's fine. And I understand it's been a while. So just if you're able to give me your closest approximate, that's certainly fine. So after about those one or two years, where did you go next?
A. To one of our clients up in Portland, New York.
Q. What was the name of the client?
A. Marietta Corporation.
Q. And what was your job there?
A. I was a laboratory specialist, a C-shift supervisor.

Q. You said C-shift supervisor?
A. Correct.
Q. And what were your job responsibilities as a lab specialist?
A. Actually, when I got there, my responsibilities were different than what my job description was, so I was sent off site to their new contractor basically to do the startup and scaleup and product delivery of what we used to make for them at Amole.
Q. Okay. What did you make for them at Amole? What was the product?
A. Shampoos and conditioners, hotel amenities.
Q. I used some of those last night.
A. I was going to say, if they say Marietta, then that's --
Q. I'll have to check. And did your job at Marietta in any way relate to the manufacture or sale of plumbing products?
A. Again, you know, it was a distinctly different type of product, but the same like manufacturing standards, document control systems, quality control systems, and general quality procedures are very similar

across the industries.
Q. Okay. So similar quality control procedures but not plumbing related --
A. That's correct.
Q. -- at Marietta? About how long were you at Marietta?
A. I was there for probably about a year. I can't remember without looking at my resume.
Q. Sure. So about another year. So now we're in late '90s probably or maybe right around 2000, somewhere in that ballpark?
A. Yes. But I can't remember -- I'd have to have my resume in front of me.
Q. Okay. And I'm not going to hold you to, you know, an exact time period here. So where did you go when you left Marietta?
A. I actually got a job offer -- interview offer from Proctor & Gamble, which was back in this area where my family is. And so I interviewed, got the job offer, accepted the position.
Q. Okay. So that moved you from New York back to --
A. Yes.

Q. -- the Ohio area? Okay. And what was the job you took at P&G?
A. Actually, I worked in drug safety assessment. It was with the P&G pharmaceuticals division, and my responsibility was to aid in the assembly of FDA submissions.
Q. How specifically did you aid in that process?
A. I helped a lot of the researchers like write the reports for basically like drug efficacy and safety assessments, some of the research reports. I would take the data, put the templates together, in many cases write the actual report, and then co-author it with some of the researchers at P&G.
Q. Okay. And so, again, that job in drug safety at P&G did not relate to the manufacture of plumbing products, correct?
A. Not specifically, but it held higher regulatory standards basically dealing with the Food and Drug Administration.
Q. So you still needed to ensure quality basically?
A. Absolutely.
Q. But just not for plumbing-related

products in that instance?
A. Correct.
Q. How long were you at P&G?
A. I was at P&G for two years. Actually, that particular role I was in, I was in for one year. And then our group got discontinued, and so at that time I stayed with P&G, and I moved over to the product development section in hair care.
Q. Okay. Was that role in product development in hair care similar to the role that you had at Marietta?
A. It was more of a manufacturing engineering-type position. I had a project that I was working on that dealt with some of the raw materials where we had to go out to basically a pilot scale facility, a miniature facility, to replicate some of the large scale production. And basically what we did was evaluated several manufacturing changes on the quality of ingredients that went into our hair care products. I can't talk in more detail because some of that's confidential and I'm still bound by that agreement with the company.
Q. Sure. And I don't want to try to

rip off the P&G formula, so that's understandable. And that was your -- around two years you were there?

A. Correct.

Q. And that was the second year you were there that you were in product development?

A. That's correct.

Q. After you left P&G, what was your next job you held?

A. My next job was I went to a -- was I was offered a position in management. I went to a company called Advanced Testing Labs.

Q. Okay. And what does Advanced Testing Labs do?

A. Basically, they had a microbiology division, a chemistry division, and a product stability division. Basically, what I did was product testing. I managed the laboratory that did product testing.

Q. Okay. Was that -- did that involve testing of products that were in development?

A. They could have been. Basically, it was testing following industry methods

called compendial methods. They're published methods that are specific to, you know, whatever product in your industry that you happen to be testing the product for. There were multiple in that particular company coming in.

Q. Okay. So I guess what I'm trying to ask, maybe you can clarify, is was it testing of products before they went to market or did it also involve testing of products that maybe had some issue after sale, an issue in the field, and they were being tested for the cause of those issues?

A. We wouldn't necessarily know that.

Q. You'd just say -- a client would say, here, test this?

A. Correct. They could be routine product tests for manufacturing. They could be developmental. We wouldn't necessarily know that.

Q. Okay. What Advanced Technology Labs would do in its testing wasn't affected by what the reason for the testing was; is that fair?

A. That's correct.

Q. How long were you at Advanced -- I'm sorry. I might have said Technology. Advanced Testing Laboratories?

A. Yes. I was there for six months.

Q. Six months. Okay. And why did you decide to leave after six months?

A. I decided to leave because the environment was not to my liking at the company.

Q. In what way?

A. In what way? We were putting in about 70 to 80 hours per week, and just the morale of the personnel that I supervised was not good. It wasn't a comfortable work environment for me.

Q. Understandable. So after you left, where did you go next?

A. I went to a company called Meridian Biosciences.

Q. Meridian Biosciences. What do they do?

A. They manufacture in vitro diagnostic kits.

Q. And what was your role at Meridian?

A. The biological quality assurance manager.

Q. Okay. Can you kind of just briefly describe what your responsibilities were in that role?

A. Yes. Basically, I did the start-up of the lab. We did microbiological testing of the product itself that we manufactured, air quality testing in the lab. I also was responsible for overseeing and qualifying external contractors for doing preservative effectiveness testing.

Q. Okay. Did your job at Meridian involve quality assurance for plumbing products?

A. Not for plumbing products, but, again, the methodology and general framework of the quality system is very similar.

Q. So can you just -- because we've touched on that point a few times, that there are certain kind of generally applicable quality assurance procedures or methods that work kind of regardless of what the product is, is that fair?

A. Correct.

Q. Can you describe for me in your own words what those methods or procedures are that apply across different industries?
A. Well, your requirements for document control and revision are similar. The requirements for, you know, making sure that, you know, if you have listing agencies and they have standards or their standards refer to, you know, industry specific standards, the responsibility for making sure that your test methods conform to those standards. Responsibility for working with agencies when they come on site to audit is similar. The degree of documentation and the retention of documentation is similar.
When you're running a method, no matter what that method is, accuracy is important. That's similar across the -- it doesn't really matter what you're testing as long as that test is run correctly and it meets the standard and the results are reliable. That's similar.
Q. Okay. So going back to Meridian, about how long were you at Meridian?
A. Oh, gosh, a year -- I can't

remember exactly.
Q. Somewhere around a year?
A. Right.
Q. And where did you go after Meridian?
A. After, my job was limited at Meridian. I worked for a short period of time at Ethicon Endosurgery just on a temporary assignment, probably four to six months. I can't remember exactly how long.
Q. Okay. What did that assignment with Ethicon involve?
A. Ethicon Endosurgery, they had a medical device. It was a bariatric anastomosis device, if I remember, they were doing a good laboratory practice submission on. And basically what I did was helped to review and assemble the submission that was going to the agency.
Q. Okay. So you were there, I think you said, for about six months or so?
A. Four to --
Q. Four to --
A. I can't remember. I can't remember exactly. It wasn't longer than

six months, but I don't remember the exact amount of time.
Q. Okay. That's fine. After those four to six months at Ethicon, what job did you have next?
A. Then I went to the E-BEAM Services, which that was, at the time, a sister company of Consolidated Plumbing Industries.
Q. Okay. And I will ask you some questions about Consolidated Plumbing Industries pretty shortly here.
A. Okay.
Q. When we get to that, I'll just refer to Consolidated Plumbing Industries as CPI.
A. CPI.
Q. Is that okay?
A. Yes.
Q. All right. About how long were you at E-BEAM?
A. Actually, my role kind of just morphed since that period of time. I mean, the first year I worked for E-BEAM on the E-BEAM payroll, but a certain portion of my pay was from Consolidated Plumbing Industries because I

managed both labs. And I managed both labs for about a year, and then I went exclusively onto CPI's payroll.
Q. Okay. So did that mean that CPI and E-BEAM were both owned by the same entity?
A. They had some of the same board members, and both of the companies were housed in the same building. So even though I came in as an E-BEAM employee, I managed both labs for both companies until which time I became exclusively a CPI employee.
Q. You said CPI and E-BEAM were in the same facility?
A. Yes.
Q. And we'll get to this in a little bit more detail later, but when CPI was manufacturing PEX pipe and cross-linking that pipe, that cross-linking was essentially done on site at the E-BEAM facility, correct?
A. Correct.
Q. Okay. What was your job title when you were with E-BEAM specifically?
A. I think it was quality supervisor, but I can't remember exactly.
Q. Okay. And, again, can you just

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briefly describe what your responsibilities were as quality supervisor or whatever the title might have been specifically at E-BEAM?
A. I was responsible for supervising the personnel that were doing the bench testing. I did some of the bench testing as well. I was responsible for maintaining document control systems. I was responsible for maintaining current industry standards specific to the products that CPI had.
E-BEAM didn't make products. They basically were a processer. My responsibility was for validation of their beam or their radiation testing and monitoring I was also responsible for.
Q. Okay. When you sort of made that fluid switch to then being technically a CPI employee, did your job title change?
A. Yes. It became quality/regulatory manager.
Q. Okay. And about how long into your employment with -- how long were you employed at E-BEAM before that transition occurred?
A. For roughly a year.

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Q. So do you have -- can you -- at this point can you give a time frame as to when that change occurred when you started working for CPI?
A. I can't give you an exact time. It was around 2004 that I started for E-BEAM. It was probably somewhere in 2005 that that occurred.
Q. Okay. And how did your job responsibilities change when you became the quality manager at CPI?
A. Really, my job responsibilities that I had going into it remained the same. CPI was growing, and so we had a higher workload going through that lab at the time. The only thing really different that I did, I had more discussions with some of our -- direct discussions with some of our listing agencies, but still, you know, who we listed with was at the direction of the plant manager.
Q. Who was the plant manager at that time?
A. Larry Smallwood.
Q. So when you started working as a CPI employee, you still had the same

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responsibilities that you had when you were working for E-BEAM in terms of the oversight for that cross-linking process that you were describing earlier, is that accurate?
A. The oversight for the cross-linking process from a CPI perspective. I was no longer responsible for E-BEAM operations.
Q. Okay. And then -- so when you were with E-BEAM, it was focused strictly on that, but -- strike that. So what additional responsibilities did you take on when you moved over to CPI?
A. Primarily just direct communication back and forth with some of the listing agencies.
Q. Okay. Did you take on any additional oversight over the extrusion process of PEX pipe aside from the cross-linking process?
A. Just the quality testing process.
Q. Okay. When did CPI first begin manufacturing PEX tubing?
A. You know, I don't know an exact date. I can tell you that I started in 2004,

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and we were manufacturing PEX at that time. I don't know the history prior to that in detail.
Q. Sometime before 2004?
A. Correct.
Q. And also just to clarify, when I'm referring to PEX tubing, I may also use the word pipe. Can we agree that pipe and tubing are interchangeable terms?
A. Yes.
Q. When you arrived at CPI, was CPI manufacturing PEX pipe for sale by entities other than CPI?
A. We manufactured pipe that had our brand name on it, and we also manufactured pipe that, the way it was listed, we printed another customer's name on it, another name for a listing.
Q. And might that also appear as ANF in documents?
A. Potentially.
Q. Who is another customer?
A. You know, I can't remember at the time. It's been so long ago. There were a handful of them. I can't remember.
Q. Did CPI ever manufacture a product

called Dura-PEX?
A. Yes.
Q. Was that a PEX-C product?
A. Yes, it was.
Q. Was another entity manufacturing Dura-PEX tubing prior to CPI?
A. I believe CPI bought the business from Duraline, but I don't -- I don't have any of the details other than having heard the name in the past.
Q. So you'd kind of just be speculating based on the Dura that there's some connection there, but that would be it?
A. That's correct. That's speculation only.
Q. Why is certain PEX referred to as PEX-C specifically?
A. The C stands for the type of cross-linking. In this case it's electron beam cross-linking process.
Q. And are there also other methods of cross-linking PEX tubing?
A. That's correct.
Q. What are those methods?
A. There's PEX-A and PEX-C.

Q. Well, I think we're talking about PEX-C, right? That's the one that uses the electron beam?
A. Yeah. PEX-A and PEX-B. I'm sorry. We're talking about PEX-C.
Q. Okay. How is PEX-A cross-linked?
A. PEX-A -- I don't know a lot about it because I've not dealt with that particular process. I believe it's some kind of a vulcanization process.
Q. Vulcanization. Okay. What about PEX-B? How is PEX-B cross-linked?
A. PEX-B is steam cured.
Q. Steam cured? Okay. So that's a chemical process?
A. Heat and humidity cure process.
Q. Did CPI manufacture PEX-A tubing during the time you were there?
A. CPI only manufactured PEX-C tubing to my knowledge.
Q. Why did CPI only manufacture PEX-C tubing?
A. I don't have the answer to that.
Q. Do you think it was related to the fact that the entity that owned CPI also owned

E-BEAM and had the facility on site?
A. I can't speculate.
Q. You never had a conversation with anyone at CPI about why PEX-C was chosen as the manufacturing method?
A. Not that I can recall.
Q. Did CPI ever manufacture fittings for use in plumbing applications?
A. To my knowledge, we never manufactured fittings, but we did purchase fittings for distribution.
Q. Okay. Did your quality management role at CPI involve any quality assurance related to the fittings that CPI would sell?
A. At CPI, no. That was handled via purchasing.
Q. So the purchasing department was responsible for ensuring the quality of incoming fittings? Is that what you're saying?
A. Yes. My responsibility was specifically to the manufacture of the product at the site, which was PEX.
Q. The tubing?
A. Correct.
Q. So is that also true for clamps?

In other words, your role in quality assurance at CPI didn't involve clamps --
A. No.
Q. -- is that accurate?
A. No. It was specific to the tubing itself.
Q. Okay. And maybe to shorten things up later, before we get into it, but you eventually became a NIBCO employee, is that correct?
A. Correct.
Q. During your time when you've been employed at NIBCO, is your role in oversight over the quality of fittings being manufactured or sold by NIBCO?
A. The only fittings that we test, and it's -- it was -- I can't remember the exact date, but maybe three or so years ago when you had a decision that we would start scanning metal insert fittings, but those are the only fittings that we test at the NIBCO facility. Again, you know, I'm responsible for the manufacture of the pipe itself. We have a purchasing and supplier assessment process that's handled out of our corporate that deals

with the fittings.
Q. Okay. So you talked about that metallurgical testing?
A. Yes.
Q. But that's not something you were directly involved in, right? You just know that it's done?
A. Well, the XRF scanning we do. When I said metallurgical, that's just the XRF scanning only. That's a very small part of that evaluation. We don't actually do metallurgical assessments of like returned products or anything in the facility. We just do like the incoming fittings just to make sure that the scan matches what the metal alloy is that they say that they're sending us.
Q. Okay. So it's just to make sure that, for lack of a better term, what your supplier is saying is in the fittings and what they're made out of is actually what they're made out of?
A. That's the limit to the testing that we do.
Q. Okay. And then for clamps, has your role at NIBCO in quality assurance ever

involved oversight over clamps?
A. No.
Q. Okay. What qualifies you to make conclusions about the root cause of field return failures in PEX-C tubing?
A. Okay. Can you specify identify what types of failures you're inquiring about?
Q. Let's start generally, I guess, and then we can maybe get more specific. So is there a way for you to answer that question just in general? What qualifies you to make conclusions about the root causes of failed PEX-C tubing?
MR. KUHLMAN: Object to form.
THE WITNESS: Do I answer?
MR. KUHLMAN: Yes. I may object periodically from time to time. It's just to preserve that objection for the record, and it's going to the form of the question. Unless I instruct you to explicitly not to answer, go ahead and object -- or go ahead and answer. Thank you.
THE WITNESS: When a piece of pipe is returned, you know, I'm qualified to run a test at the time of manufacture that indicates that the tubing to the best of our knowledge based on the

standard meets the standard. At the time tube is returned, again, I'm qualified to go back, pull the original testing that was done. We retest, for example, wall thickness, outer diameter, physical appearance, the tests that are specified by the industry standards, and make sure that that returned product -- well, determine whether that returned product does or does not meet the standards for PEX.
I'm qualified to visually look at it and determine the type of failure that we have. One term that may come up frequently with PEX is oxidative-type failure. There are numerous root causes for an oxidative type failure, but when PEX fails, that's generally the type of failure mode that you see in that particular type of product.
BY MR SHAMBERG:
Q. Okay. So let's, you know -- for sake of clarity, let's focus on a pipe that comes back in that has one of these oxidative-type failures.
A. Okay.
Q. And let's start here, I guess. Are you -- would you say you are qualified to determine what the root cause of that failure

was?
A. What contributed to the oxidative failure?
Q. Yes. What caused the failure.
A. Well, there would be two parts to that assessment. One would be the laboratory evaluation of the sample and also an evaluation of the site in which it failed to begin with. I wasn't responsible for actually going out to the site where the customer failures were. From a lab perspective, yes, I was qualified to say this is an oxidative-type failure versus a ductile flyer. Ductile failures were you had a pliable product that simply just through overpressurization or something blows in a certain physical manner as opposed to a brittle split over time. I am qualified to differentiate between the two. It would take an additional evaluation of going out to the site to determine what the environmental conditions were that might have contributed to that oxidative failure.
Q. Okay. So I guess then absent a site visit to determine the cause of a particular failure in a particular instance,

your role would be limited to stating the condition of the pipe and what the failure was rather than the cause of the failure?

A. There might be some circumstances where I may have some clues based on the physical appearance, but, again, you know, one would have to look at all of the possible contributing factors, not only manufacturing but insulation and usage as well.

Q. What would be some of those hints that you might see that would give you maybe a hypothesis as to what the cause of the failure was?

A. If I saw a tube that had an expanded outer diameter in the vicinity of the attack, it's possible that pressure could have been a contributing factor. If I see a tube that is bent and there's a crack perpendicular to the direction of the tubing on the outside of the bend, it's possible that bend stress could have been a contributing factor but, again, you know, those things would have to be evaluated both in the field and via the laboratory assessment as well.

Q. Absent an inspection in the field,

would you be able to make a determination as to whether an oxidative-type failure in a sample of PEX-C tubing was due to a manufacturing or design defect versus another issue in the field? For example, installation?

A. What I would be able to determine is based on the testing that we could do to standard is that that tubing met the standard at the time of release and at the time of return.

Q. So if somebody came up to you after your laboratory assessment and said, Debbie, there's this oxidative-type crack in the pipe. Why did this happen? Would you be able to answer that question?

MR. KUHLMAN: Object to form.

THE WITNESS: I would be able to determine whether or not that tube met the manufacturing quality standards for PEX. I would be able to -- if I looked at the point of leak, I could tell you what type of a leak it is. Is it oxidative? Is it ductile? And I could give you a list or some general ideas of the types of environmental variables that typically, you know, would cause that. I could not in every case

specify or pinpoint an exact cause. There could be many.

BY MR SHAMBERG:

Q. Okay. So in that same scenario, if you'd only done the laboratory assessment and there had been no field inspection and you were asked was this oxidative-type failure due to a manufacturing defect or an issue in installation, would you be able to answer that question?

MR. KUHLMAN: Object to the form.

THE WITNESS: I would be able to say that based on the industry standard in effect at the time, that product appears to meet the standard based on the testing that we had done. Therefore, I would not be able to determine that there is a manufacturing defect, but yet I could not give an exact root cause for that particular failure without knowing additional information.

BY MR SHAMBERG:

Q. So the field inspection is important in that process then? Let me rephrase that. The field inspection is important in determining the root cause of a particular failure?

A. If you want to pinpoint it down to an exact cause.

Q. Okay. So I think you mentioned that you had some experience both at CPI and previously in other jobs in dealing with third-party listing or certification agencies, is that true?

A. Yes.

Q. At CPI from 2004 to when you started, let's say, until around the middle of 2006, what, if any, third-party listing agencies did CPI list its PEX-C pipe with?

A. We used Underwriters Labs. We used NSF. And I believe -- and I don't remember the date that this started -- I believe we also co-listed with IAPMO.

Q. Okay.

A. But I don't remember the exact dates those started or terminated or --

Q. Okay. That was going to be my next question. Do you remember -- if you don't remember the dates, do you remember the sequence? In other words, which was first, which was second?

A. I really don't. I remember

Underwriters in the first year of my employment, but I don't remember what or if we used them for afterwards.

Q. Regardless of which of the entities you listed CPI may have been listing its product with at the time, was CPI ever concerned about losing one of those listings due to failure to meet chlorine resistance requirements?

A. When I started, the chlorine -- the first year I started, the chlorine resistance requirements were not yet in effect. I was part of -- in the very early years there was an industry-wide task force at NSF. They had JANA Laboratories. They had representatives from several competitors on it that were dealing with, you know, some technicalities that people were running into at the time that, you know, that listing process was going into effect. It wasn't a matter of being concerned of losing the listing. It was -- at the beginning of my employment it was trying to pull together what we needed to get our products certified to a standard that was brand-new that was being brought out across

industry.

Q. Okay. So, in other words, there wasn't a concern at first about losing a listing because there was no listing for chlorine resistance when you first started at CPI?

A. That's correct. It was just something that was just getting to the point where it was going to go into effect.

Q. Do you recall when the policy went into effect?

A. I don't remember the specific year.

Q. Given the layout here, this is where I'm going to start to get my workout, and I'm going to come and hand you a document.

(Thereupon, Plaintiffs' Exhibit Premus 1, email chain Bates stamped NIBCO-Cole 00053426 through NIBCO-Cole 00053427, was marked for purposes of identification.)

BY MR SHAMBERG:

Q. So, Ms. Premus, I'll ask you to take a look at that document, and then I'll have some questions. Just let me know when you're done reviewing it.

A. It feels like there should be another piece of paper here but I guess it's just stuck.

Q. Do you have -- so there's some numbers at the bottom of the document that are what's called Bates numbers. They're just used to identify documents.

A. Okay.

Q. This one says NIBCO-Cole 00053426. Is that what yours says as well?

A. Yes.

Q. And then there's a second page that ends in 427. Is that also what you have?

A. Yes.

Q. So I want to ask you just a couple questions about this document starting with the email at the top of the first page. Is that an email you wrote?

A. Yes, it is.

Q. Okay. So that sibemusher is your email address?

A. Yes.

Q. And I think that relates to, as we were discussing off the record, your former life, shall we say, in dog racing?

A. Yes.

Q. And is the Larry that this is directed to Larry Smallwood that you mentioned earlier?

A. That is correct.

Q. And so in this email, this is February of 2006, you say you're looking forward to when the UL chlorine policy goes into effect and forces us to drop our UL PEX listing. First of all, is UL Underwriters Laboratory?

A. That's correct.

Q. Why would that chlorine policy force you to drop your listing with Underwriters Laboratory?

A. I don't remember. It's been so long ago, I don't remember all of the details. The only thing I can say that I do remember, there are certain labs and at the time in particular there were only a very limited number of labs that could run that chlorine test. And, if I recall, Bodycote Polymer was a foreign lab. I had no dealings directly with Bodycote. My predecessor was the one that had set that up.

What I remember being told -- and, like I said, it's been a long time -- my understanding was they had a lot of difficulty, I guess, with the quality of Bodycote's work. I don't have any details. Like I said, I never worked with them personally. And so apparently -- I don't even want to speculate other than, you know, what's written here is that, you know, I was looking into the transfer to NSF at the time.

Q. Okay. You mentioned a predecessor at CPI. Who was that predecessor?

A. Tony Michaels.

Q. Tony Michaels? Okay. And --

A. Tony Michael or Michaels. I'm not sure of the exact spelling of the last name.

Q. Okay. And he was the quality assurance manager at CPI before you?

A. Prior to me, correct.

Q. So that would have been before 2004 when --

A. Correct.

Q. -- he was in the role?

A. Correct. All I know is that the plant manager was dissatisfied with Bodycote

Polymer, and I don't have any additional details on that.

Q. Okay. Is that why you say you'd be -- in the second paragraph here, you say we would still be stuck with Bodycote Polymer for any follow-ups?

A. I would speculate that's probably why I said that.

Q. But you don't know sitting here today why you said that the new UL chlorine policy would force you to drop your listing for PEX tubing?

A. The only thing I can speculate is that it would force us, if we stayed with UL, to continue to work with Bodycote Polymer, you know, and, like I said, that was before my time. I don't know the ins and outs for the reasoning behind that. It's been so long, I just don't remember.

Q. Do you think it was because the PEX tubing would have failed the testing required to receive the UL listing?

A. I don't have any specific details to that. I don't remember.

Q. Okay. Was the -- during your time

at CPI, was the method for manufacturing PEX-C tubing the same or did it change?

A. To my knowledge, the method was the same.

Q. And then NIBCO purchased the assets of CPI in 2006, is that correct?

A. Correct.

Q. When NIBCO began manufacturing that PEX-C tubing, did the manufacturing method change from the method that CPI had been using?

A. Not that I'm aware of.

Q. To your knowledge, did that method change at any time for the 1006 tubing?

A. For the 1006 tubing, not that I'm aware of.

MR. KUHLMAN: Object to form.

BY MR SHAMBERG:

Q. Okay. We're done with this document. We can set it aside. And I want to get in now to talking a little bit about that manufacturing process. So let's focus just for now on the 1006 tubing that CPI was manufacturing when NIBCO took over the operations for. Can you explain what extrusion is?

A. Basically, it would be the taking of components or raw materials such as our colorant and our resin and at a temperature basically blending them together.

Q. Okay. And you said some of the materials are colorant --

A. We have colorant --

Q. -- or resin.

A. -- and a base resin.

Q. So the colorants, I'm assuming, gives the product its particular color?

A. Yes.

Q. Are there any other attributes that the colorant adds to the PEX-C product?

A. It would also include the anti-oxidant and UV stabilizers.

Q. Would the selection of a particular colorant have any effect on the chlorine resistance of the PEX-C pipe that it was used to manufacture?

MR. KUHLMAN: Object to the form.

THE WITNESS: It would depend on the chemical composition of the color.

BY MR SHAMBERG:

Q. Okay. In what way?

A. Actually, I'm not sure that even to this day it's fully understood. That's why we do the chlorine testing.
Q. Okay. So it seems like you're saying -- correct me if I'm wrong -- that there can be a difference in chlorine resistance based on the particular colorant that's chosen; but sitting here today, there's no way to know exactly what the cause of that difference is?
A. To my knowledge, no. But, like I said, that's not something I'm aware of personally.
Q. Someone may know?
A. I don't know.
Q. Okay. So what about the resin then? What is the significance of the resin in the manufacturing process?
MR. KUHLMAN: Object to the form.
THE WITNESS: I mean, it's essentially the primary material with which our product is manufactured.
BY MR SHAMBERG:
Q. Can the choice of one resin versus another resin impact the chlorine resistance of a fully extruded PEX-C tubing?

A. Potentially, which is why, if you have a different resin, it's also required to be tested.
Q. Do you know why one resin would have a different impact on chlorine resistance than another?
A. Personally, I don't know.
Q. Have you ever done any investigation to answer that question?
A. Not in my role.
Q. Okay. So there's a colorant and there's a resin. Then how -- essentially, the extrusion process is mixing those things together, or can you just explain how those materials are extruded? What occurs during the extrusion process?
A. The products are metered into a hopper. They're heated and pushed through a screw in the extruders and basically go through a sizing plate and into a vacuum chamber where they come out as cooled PEX. They're cooled down obviously and solidified in a continuous process.
Q. At what point in this process does the cross-linking occur?

A. That occurs after the extrusion process.
Q. Okay. Can you tell me or estimate for me what the total length of time to extrude a particular reel of pipe would be?
MR. KUHLMAN: Object to the form.
THE WITNESS: It depends on the size of the reel. An average speed may be 60 to 80 feet per minute as the extruder output, depending on the size of the tubing. We can have 10,000 feet on a reel. We may have 40,000 feet on a reel.
BY MR SHAMBERG:
Q. How long is the extruder path?
A. The cooling trough and assembly of the machine itself or the time?
Q. From when the process starts, the very first part, I guess, where the materials are being placed into the machine to when they are done cooling and ready to go for cross-linking, how far has a particular point on a piece of pipe traveled?
A. Distance is what you're asking for?
Q. Yes.

A. Maybe about 50 feet. I haven't actually measured a specific length.
Q. Fifty feet, and you said it moves at about 60 to 80 feet per minute?
A. Yes. Maybe a little bit longer than 50 feet. Maybe about 100 feet. I haven't specifically measured those extruders. I don't know for certain.
Q. So then if it's about 100 feet and the extruder is moving at 60 to 80 feet per minute, does it then take somewhere around one and a half to two minutes to complete the process?
MR. KUHLMAN: Object to the form.
THE WITNESS: Well, for that particular section of tubing, yes, but, I mean, a reel may be in the process of manufacturing for hours. I mean, an entire shift if you have 40,000 feet.
BY MR SHAMBERG:
Q. Sure. And I guess -- so maybe my question wasn't so clear. Let's say, you know, one particular six-inch piece of the pipe, I guess, from when, you know, you're starting there and then when that piece of pipe is

finished with extrusion process. That would be a couple minutes, around?
A. Roughly.
Q. What temperature was the 1006 tubing extruded at?
A. I don't remember the exact temperature.
Q. Okay. Do you remember a ballpark or an estimation?
A. I don't. There are about four different heating zones on an extruder machine, but I don't remember the exact settings.
Q. Do you recall what temperature the reformulated pipe, the 3308 pipe, was extruded at?
A. I really do not.
Q. Do you know what impact, if any, the extrusion temperature can have on the performance of the tubing in the field?
A. I do not. That's outside the realm of my responsibilities.
Q. Okay. And then regardless of what the temperature is, and let's focus on the 1006 pipe for now, do you know what length of time the pipe remains at that temperature while it's

being extruded?
A. Unfortunately, I don't.
Q. Who might know that at NIBCO?
A. That -- my guess would be the product engineer at the time.
Q. Do you recall who the product engineer was at the time that NIBCO acquired CPI?
A. I don't want to speculate on that. I mean, there were individuals that I worked with, but I don't recall specifically whose title was what at that time.
Q. Throughout your tenure at NIBCO, do you recall the names of any individuals who you believe would be responsible -- would be -- strike that. Do you recall the names of anyone who during your time at NIBCO would have known what temperature the PEX-C tubing was extruded at?
A. I don't know who specifically would have known that. I mean, there were individuals that I worked with that, you know, had an engineering function, but I don't know specifically if they were the individuals that would have known that.

Q. Do you know whether the extrusion temperature can have an impact on the quality of the finished product for PEX-C tubing?
A. I mean, those are engineering questions that are really outside of my expertise.
Q. Okay. That's not a discussion you had with anyone in engineering at NIBCO?
A. Not that I've had.
Q. Okay. Are you familiar with the standard that's referred to as ASTMF876?
A. Yes.
Q. Can you describe what that standard requires?
A. The standard basically requires -- I mean, it outlines dimensions of burst strength and other parameters that identify a product as PEX. I mean, it specifies the industry test methods on which our laboratory testing is based and also tests for which agencies, listing agencies, conduct annual certification testing as well.
Q. Does ASTMF876 include any standards for chlorine resistance?
A. Yes.

Q. What are those standards for chlorine resistance?
A. There's a standard 2023 which basically specifies that there is a 50-year minimum that the tubing must meet. And that testing would be done by a listing agency.
Q. Okay. So is the chlorine resistance requirement in 876 or is it in the 2023 standard that you mentioned?
A. The 2023 standard is the actual method itself. The requirement would be in 876. And the requirement would have been what was stated at that particular time of manufacture. Those standards have changed over the years. Again, at the time I started, there was no standard that was in effect at that time.
Q. Right. The standard came in at some point after you began at CPI?
A. I don't remember what particular year. I don't remember what year it appeared on the ASTM standard. And I believe that it appeared prior to them enforcing the standards. I don't have dates for that.
Q. Has NIBCO ever manufactured PEX-C

tubing with an outer diameter that exceeded the maximum diameter permitted under ASTMF876?
MR. KUHLMAN: Object to form.
THE WITNESS: If there was a measurement that was outside of the specifications, that product would have been put on hold.
BY MR SHAMBERG:
Q. So that was going to be my next question. If the quality assurance testing reveals a maximum diameter greater than what's permitted under ASTMF876, what does NIBCO do?
A. If the product is in excess of the specification and it does not meet specs, it would be scrapped and -- quarantined and scrapped.
Q. And is that true in all instances?
A. To the best of my knowledge.
Q. Are you aware of any instances where pipe that exceeded that maximum diameter was observed but the pipe was not scrapped?
A. The plant manager would have had the ultimate authority. I can't recall any specific times. Not to my knowledge at this time.

Q. So it may have occurred, but it's not something you are aware of?
A. It's not something that I could testify to at this time.
Q. You said the plant manager would be the one to make that decision?
A. Under CPI, yes.
Q. Under CPI. What about for NIBCO?
A. For NIBCO, it would have been a leadership team decision.
Q. Would that be the leadership team at Lebanon?
A. Yes.
Q. And Lebanon, Ohio, is where the manufacturing site is located, is that correct?
A. Yes.
Q. In the year following NIBCO's acquisition of CPI, so let's say 2006 to 2007, who was on that leadership team?
A. It's been a while. There was a general manager and an HR manager and an operations manager. Do you want specific names?
Q. Yes.
A. Chris Mason was the general

manager -- or was the vice president. Vince Pulles was the HR manager who kind of was the senior manager at our site. And Larry Smallwood was the operations manager.
Q. Were you on the leadership team at that time?
A. I was not considered -- I mean, when NIBCO took our company over, I became coordinator rather than a manager, so I wasn't considered part of a management team.
Q. So with respect to the ultimate disposition of any out of specification pipe at NIBCO, did you have any role in making that determination?
A. I would put the product on hold and I would make my recommendations. You know, if it doesn't meet spec, then my recommendation would be that the product is scrapped.
Q. Was that true in every instance? In other words, do you recall an instance when a product was out of specification and you didn't recommend that it be scrapped?
A. I can't recall.
Q. At what point in the manufacturing process are these dimensional checks performed?

A. They're performed at several points in the process. They're performed at the time of extrusion, in which it's not PEX. It would still be PE material. They're performed after the E-BEAM process. They're also performed after the cut, coil, and mark process. So three different times the measurements are taken.
Q. Okay. And we previously talked a little bit about how long the extrusion process takes. When the extrusion process is complete, how much time passes before that PE pipe is cross-linked?
A. I'm not aware of any set standard for time in which it has to occur. There is a contract that we have that gives E-BEAM a certain number of days in which a job has to be completed, and then also there's the demand -- customer demand for particular sizes and colors. My estimate is maybe about two weeks, but it's not necessarily a hard written in stone time frame.
Q. So that's -- and I understand that it's not going to be the same in every instance. But that two weeks that you

mentioned --
A. Roughly.
Q. -- that's from -- that's the time period from when the extrusion process is complete to when the cross-linking process begins?
A. To when the cross-linking is completed.
Q. Okay. So my question was a little different. I appreciate that, though. My question is how long is the time period from when extrusion is completed until the cross-linking begins?
A. The cross-linking is done relatively quickly, within maybe 45 minutes to an hour, so it's close to the same length of time.
Q. That was going to be my next question. That makes sense, how long the cross-linking process takes. About an hour, maybe a little less?
A. With the mounting and unmounting on the fixtures, maybe slightly more. And then the actual cross-link process itself is maybe about 45 minutes per reel.

Q. We're talking about a matter of a few hours rather than days or weeks?
A. Yes.
Q. And then again you mentioned the cut, coil, and mark process at the end. How much time lapses between when the pipe is finished with the cross-linking process and the cutting, coiling, and marking process begins?
A. There's no set amount of time. Basically, it depends on our order levels, what our customers order, you know, and it can vary.
Q. So what would be kind of the low and the high end of time?
MR. KUHLMAN: Object to form.
THE WITNESS: The low is it could begin on the same day that the cross-linking is complete. I don't have an estimate for the high. You know, I could say most product probably gets processed within a couple of weeks of manufacture, but beyond that, I don't have any specifics.
BY MR SHAMBERG:
Q. Okay. So maybe sort of similar to between extrusion and cross-link, maybe in a couple weeks?
A. For the faster moving products,

that would be correct, but it varies. Like I said, there's no specific time.
Q. How long does that cutting, coiling, and marking process actually take to complete, just that part?
A. It depends on how large the order is that they're running. It depends -- they may run out an entire reel. I don't know the footage per minute that they ran at, but, you know, it could take a couple of hours. It could take a couple of shifts. It may take a couple of days. It just depends on what size they're running and how large the order.
Q. So the dimensional checks per ASTMF876 are performed after extrusion, after cross-linking, and after the cut, coil, and mark, is that accurate?
A. For the quality laboratory, yes. Our production staff also do quality checks as well.
Q. Okay. When do those production staff quality checks occur?
A. They do it at startup just to make sure that they're inspected at the time that they initiate production. They also check at

the end of extrusion. We also check that point, too. Periodically, they'll use calipers and Pi tape. And what they're checking as they're running, there's no specific time interval for that. They just periodically are making sure that their product is maintained within the spec.
Q. So then going back to the actual quality control test, the nonproduction staff testing, the quality lab, the quality assurance testing, because I think you mentioned a time period between the different phases of manufacturing, you know, extrusion, cross-linking, and cutting, coiling, and marking can vary depending on the order, is it also true that the time when those checks are performed can also vary?
A. For quality, no. We test at the beginning and the end of each reel and extrusion. Like I said, we test when the reel comes back from E-BEAM and during the cut, coil, and mark processes. Usually there are several setups per individual reel. We test first article inspections for each of those as well. So, I mean, there are multiple points

within each reel or lot that are tested.
Q. Okay. So you had mentioned earlier, say, for example, that the time between cross-linking and cutting, coiling, and marking could be the same day or it could be a few weeks, right? Depending on the particular order?
A. Right.
Q. So does that also mean that even if the quality control testing is performed at the same point in the process, that test could be performed within a range of a few weeks of time?
A. Yes. I mean, there are different tests and different data collection records for each, but all of the tests for one reel are not necessarily done on the same day. They're done on the days that particular processing steps are undertaken.
Q. Okay. What is a die line?
A. A die line would be a visible line in the tubing that -- basically when the molten material flows through a die, it would not at that point -- if you have an ideal process once the tube is formed, you don't see the residual

of where that die lines or the product went through that die. In some cases, you know, if you have a process -- in a few cases there may be evidence of where that die line occurred. Sometimes they're extremely minor and superficial. Sometimes, you know, in rare cases they can be more severe than that.
Q. And can you just explain a little bit again how a die line forms during the extrusion process?
A. Basically, it's where the product would knit together after going through a die on the extruder device.
Q. And the die, is that a colorant or is that different?
A. No. It's like a -- it's like a metal piece that molten product flows through as it's exiting the extruder.
Q. So what I'm picturing in my head, when I was a kid, I used to play with Play-Doh. And you'd push it down and it would squeeze it out through kind of a metal sluis (phonetic). Is it like that or is that totally off base?
A. There's some similarity. You know, if it flows through a grid or a die line,

you know, if it comes out where you can see the point where that die sliced through the material, then you would have a die line. If, you know, the product was molten when it formed, then you would not see that.
Q. All right. I'm just trying to get a visual on how it looks.
A. But I am not an extrusion expert. You know, that's going into an engineering area that, you know, I don't want to speculate on outside of the realm of my responsibility.
Q. Okay. But you are responsible for ensuring the quality of the finished product, right?
A. That's correct.
Q. Do you know what causes die lines to form?
A. I don't know all the causes for die lines.
Q. Do you know some of them?
A. I don't want to speculate on that.
Q. Okay. So no then? In other words, no, you don't know what causes die lines to form?
A. Not to give an answer in this

context, no, I don't.
Q. What context would you be able to give the answer?
A. I don't have the experience to give you an answer to that question. I cannot answer that question.
MR. KUHLMAN: Kyle, when you get to a reasonable stopping place, can we take a five-minute break? We've been going for, what, an hour?
MR SHAMBERG: Yeah. This is actually probably a good time.
(Pause in proceedings.)
BY MR SHAMBERG:
Q. Ms. Premus, to your knowledge, has NIBCO had any problems with its manufacturing process of PEX tubing over the years?
MR. KUHLMAN: Object to form.
THE WITNESS: Can you specify what types of problems you're inquiring about?
BY MR SHAMBERG:
Q. Defects in the finished product.
MR. KUHLMAN: Object to form.
THE WITNESS: I mean, all manufacturers have periodic issues that come up in

manufacturing processes, which is why you have a quality control. I've not seen them to an extent that wouldn't be normal in any process.
BY MR SHAMBERG:
Q. Okay. What were some of the defects that you've observed with the manufacturing process of PEX-C tubing?
A. PEX-C tubing, occasionally you would have a shrinkage of OD or out of round based on tension that occurs in the process. I mean, they're not frequent, but, I mean, they occasionally can occur. That's what our measuring and testing process is to detect.
Q. Have you ever raised any concerns about potential problems with the manufacturing process for PEX-C tubing with your superiors at NIBCO?
MR. KUHLMAN: Object to form.
THE WITNESS: I mean, from a quality perspective, and there have been a lot of changes -- not changes, but improvements, you know, in our documentation system over -- you know, it's been 12 years since I've been working for the organization. I mean, I'm always looking for ways that we can do things better. You know,

I raise those suggestions when they come or when the opportunity arises.
BY MR SHAMBERG:
Q. Okay. Do you recall any specific instances in which you did that?
A. Not off the top of my head.
(Thereupon, Plaintiffs' Exhibit 2, email chain Bates stamped NIBCO-Cole 00039212 through NIBCO-Cole 00039213, was marked for purposes of identification.)
BY MR SHAMBERG:
Q. Ms. Premus, just take a look at that and I'll ask you questions about it.
A. Okay.
Q. So Ms. Premus, I've handed you a document that bears the Bates label NIBCO-Cole 00039212, and on the first page of this document at the bottom there's an email from you to Chris Mason with the subject line quality issue that needs attention?
A. Yes.
Q. Do you recall writing this email?
A. Honestly, I don't. Obviously, I did, but I had forgotten about this.
Q. Okay. So even though you may not

remember it, you do believe you wrote this email at the time, correct?
A. It appears to have come from me. I don't recall having written it.
Q. And if you turn to the second page of this document, in the full paragraph at the top, you mention a leadership meeting that Larry was in attendance at. Again, is that Larry Smallwood?
A. Yes.
Q. And that leadership meeting, was that a meeting of the leadership team that we had discussed previously?
A. It would have been at the time -- Larry Smallwood is the highest level manager on site, and then with the supervisors of various areas like myself, extrusion, post processing, distribution.
Q. Okay. Do you recall the individuals who were in attendance at that leadership meeting?
A. You know, we've had some changes in personnel. I personally can't speculate on that particular date. For example, one of our extrusion supervisors is deceased. I don't

remember what year it is. Those positions have changed periodically.
Q. Okay. So with respect to this particular meeting that you're referencing in this email, other than yourself and Larry Smallwood, you're not able to identify anyone else who would have been in attendance?
A. I could tell you the positions that should have been in attendance, but I can't identify -- I mean, I don't even remember having written this, it's been so long. I can tell you the positions that should have been in attendance, but I can't tell you who or if they were actually there.
Q. Okay. In this email you're raising an issue as to the calibration of NIBCO's extruders, is that fair?
A. The way the email's written, that's correct.
Q. And you say that when you raised the issue at the leadership meeting, Larry Smallwood was again resistant, and you say that that was consistent with the periodic rebuffs that you've been receiving on this issue. Can you describe for me what those periodic rebuffs

were?
A. Honestly, I can't. The only thing I can say is that Larry had kind of a very flamboyant sometimes touchy temper, and it's obvious that I had a disagreement with my boss and I went to his one-up.
Q. So then when you say I don't want to be in a position to create friction with my boss, your boss was Larry Smallwood?
A. That's correct.
Q. Okay. Aside from this email which I understand you don't, sitting here, recall writing, do you have a memory of raising these calibration issues with Larry Smallwood at the time?
A. I have a memory, and it's been many years. My memory is not clear at that point anymore. I remember asking the question about calibration, and I remember asking the question if -- probably, I was looking for documentation, which is part of my role as far as like maintaining documentation of company records and stuff. I don't remember specifically why the issue came up, but I remember questioning, you know, how often we

did it and where the documentation was. And that probably is the situation here. I just didn't remember specifically this.
Q. So you saw a potential concern and you were trying to raise that concern to your boss, is that fair?
A. That's correct.
Q. And he was not being particularly receptive, is that fair?
A. Based on the information in this email, that apparently was my perception at the time.
Q. And, again, I understand that you don't remember the specific contents of the email, but you also mentioned here after talking about those periodic rebuffs that you're concerned that it's putting the company at risk?
MR. KUHLMAN: Object to form.
BY MR SHAMBERG:
Q. So my question about that is what risks were you concerned about at the time?
A. I don't believe I could give an answer. First of all, so much time has passed, I don't know what my train of thought was at

the time. If I had to speculate, you know, knowing that from a quality control perspective generally, you know, a process -- basically, it was probably looking for documentation of a process and that that process was within standard.
Q. Do you recall being concerned that potential drift in the extruders could lead to chlorine resistance problems?
A. It looks like I was speculating in this particular email. I don't recall ever having seen any evidence to say that that occurred. But, you know, I was simply looking for documentation, doing my job. I felt I didn't apparently get the response from my supervisor that I needed, and I went to his one-up looking for that documentation.
Q. So you just wanted somebody who would address the concern and resolve the issue, right?
A. That would be correct. I mean, I didn't have any apparent evidence that any issue was, in fact, occurring. I just wanted that documentation because I felt that it was important to the quality process.

Q. And then on the first page here, Chris Mason responds to the email and says we will talk tomorrow. Do you recall ever talking to Chris Mason about this calibration issue?
A. Honestly, like I said, I don't remember writing the letter. I mean, it obviously occurred. It's just been so long it just is out of my memory. I don't recall if or what. I'm assuming, you know -- if there weren't additional emails, I'm assuming the meeting probably happened. I don't know. I don't remember. I know that our plast controls are calibrated down. That's, you know, something that was obviously addressed.
Q. Okay. So at some point between the time of this email exchange and today these calibration concerns were addressed and fixed to your knowledge?
A. Yes. You know, again, it's just the documentation. You know, I don't know that the service didn't occur. I just didn't have the documentation based on this email.
Q. So it was simply the lack of documentation that you were concerned was putting the company at risk?

A. You know, like I said, I don't recall having written this. That appears to be what flagged my attention based on this email that I just reviewed.
Q. So if this calibration issue was ultimately addressed and fixed, you just don't know when that would have happened?
A. Not to my recollection.
Q. You weren't involved in that?
A. I just can't remember the process, it's been so long.
Q. Okay. So you may have been, but it's just --
A. If it were still an issue --
Q. -- you can't recall?
A. -- I would probably still be raising the concern. I just don't remember.
Q. Okay. Last question on this. Do you have a specific memory here of anyone at NIBCO informing you that the calibration issue discussed in that email had been fixed?
A. I couldn't even speculate. I don't know.
(Thereupon, Plaintiffs' Exhibit 3, Inter-Office Confidential Memo to Debbie Premus

and Pat Borgerding from Vince Pulles, was marked for purposes of identification.)
BY MR SHAMBERG:
Q. So, Ms. Premus, I've handed you a document. Although it's not revealed on this copy, I'll represent that this is NIBCO-Cole 00036399. And this is a memo from Vince Pulles to yourself and to Pat Borgerding, is that correct?
A. Yes. Yeah. I don't see the number of the document on here.
Q. You'll have to just trust me that that's right, and I'm just making it for the record. Who is Pat Borgerding?
A. He was the operations manager at the time. He was responsible for extrusion. Actually, his title might have actually been extrusion manager. I don't remember the exact title.
Q. Is he someone who might be knowledgeable about the questions I was asking related to the temperature at which the pipe is extruded? Would that have fallen within his responsibilities as extrusion manager?
A. Potentially.

Q. Is he still with NIBCO?
A. No, he's not.
Q. And Vince Pulles, I think you said, was the head of HR?
A. Human resources manager.
Q. Okay. And he was on the leadership team at Lebanon?
A. Yes.
Q. So, first of all, do you recall receiving this memo?
A. I don't specifically recall receiving it, but I recall dealing with the situation.
Q. Okay. What was the situation?
A. The situation was that we had a manufacturing defect that was occurring in one-inch pipe.
Q. Okay. And I believe Vince Pulles identifies that -- he identifies the primary reason is charred plastic resin and resulting pinholes?
A. Yes.
Q. Is that accurately what he states?
A. Yes. And it's not the same as the oxidative failures that we were discussing

before. This is an actual defect that occurred -- it's a separate, unrelated defect that occurred at the time of manufacture.
Q. Okay. So he says we need to get to the root cause of the pipe failures and make certain we minimize them going forward. Do you have an understanding as to what that root cause was?
A. Yes. We believe it to be that they needed to improve their clean-out procedure on the extruders, possibly -- I don't remember all the details at this time, but possibly there was a change of personnel and they weren't cleaning them as thoroughly as they needed to. One of the things that we did was went to 100 percent pressure testing of all sizes to make sure that none of these defects -- I mean, it would have been detected either in the plant or they would have been detected during the pressure testing in the installation because it was something that was present at the time that the pipe would have went out the door. We tested 100 percent to make sure that we caught those and also put in place a new clean-out procedure for the

extruders with a specified frequency to make this go away.
Q. Okay. These pinhole problems that are discussed in this memo, they affected, at least according to the memo, over 100,000 feet of the tubing?
A. Yes.
Q. So then in this memo Mr. Pulles lists action steps that need to be taken as 1 through 7. And number 6 says, Debbie to check the records, conduct an audit, and occasionally observe the clean-out process. All records are kept in quality department. Need an audit system in place. So at the time that this memo was written, was there a system -- was there an audit system in place to detect the clean-out issues that you've mentioned?
A. There was a data collection record to record the clean-outs that occurred on the machines, you know, and periodically as we walked out and collected our samples, we would check those sheets to make sure that they were being filled out, you know, according to the interval specified in the procedure. There's a written procedure that was developed that

specified those intervals.
Q. When was that procedure developed?
A. I don't remember the exact date, but it was in response to this.
Q. Do you recall when it was implemented?
A. I don't remember the date without it being in front of me.
Q. To your knowledge, did this charred plastic resin and pinhole issue affect other reels of pipe other than those identified in this document?
A. It was something that had sporadically occurred. I think there was some additional pipe. I can't remember specifically what or how much. But those would have been caught during pressure tests. And when you say 100,000 feet affected, it's an intermittent problem, not necessarily 100,000 feet, but there may be several spots within that length of tubing that this might have occurred.
Q. But that 100,000 feet still had to be scrapped in its entirety?
A. Yes.
Q. Are you aware of any other issues

aside from the charred plastic resin issue identified in this memo? Are you aware of any other issues with pinholes being formed in PEX tubing during the manufacturing process?
A. Not to my knowledge. And, again, this is distinctly different than an oxidative-type failure. This would be something that would be present at the time of manufacture, not something that develops later after installation.
Q. Had this pipe been sold to market, do you believe that it would have failed prematurely in the field?
MR. KUHLMAN: Object to form.
THE WITNESS: I don't believe there's any evidence suggesting that. If the plumber --
MR. KUHLMAN: Are you talking about this tubing?
MR SHAMBERG: Yes. Let me clarify that.
BY MR SHAMBERG:
Q. If the 100,000 or so feet of tubing being discussed in this memo that was scrapped had been sold in the market, would that pipe have failed prematurely in the field?

A. As long as it passed the initial pressure test, meaning that there were no pinholes in the actual footage that was installed, there would be no evidence that would suggest that it would fail prematurely. I mean, the issue was the fact that there were pinholes in the product that were a manufacturing defect in this case.
I mean, if the plumber did a pressure test and showed that the system wasn't leaking, then it would have probably performed like normal PEX. But, you know, as a precaution, you know, we recognized that there was a manufacturing issue, and we scrapped the product.
Q. And you think you caught all of it?
A. To the best of our ability, I believe we caught, you know, as much as we could.
Q. Okay. We'll do one more document that I'll have some questions about.
(Thereupon, Plaintiffs' Exhibit 4, email chain Bates stamped NIBCO-Cole 00032068 through NIBCO-Cole 00032072, was marked for

purposes of identification.)
BY MR SHAMBERG:
Q. Okay. Ms. Premus, I handed you had a document that's Bates stamped NIBCO-Cole 00032068. Have you had a chance to review the document?
A. Yes.
Q. In 2011 were failures in PEX-C tubing occurring due to pinholes created during the cross-linking process?
A. According to this memo, now I recall, yes.
Q. Why was that occurring?
A. Actually, for similar reason that we saw them with the char, and that's to my knowledge particulates, the presence of particulates in the formulation.
Q. Okay. What are particulates?
A. Just basic like a particle, but, again, this is not the same as an oxidative-type failure. It's an issue that occurs at the time of manufacture.
Q. So there were particles present in the colorant that were causing the pinholes to form when the pipe was cross-linked?

A. That was the theory, correct.
Q. Okay. Is that the theory that you, on the very first page of this document in your email to Will Mitchell, you discuss a hypothesis that you have about why there appears to be a color difference? Is that also what you're discussing there?
A. Yes.
Q. Okay. Was that hypothesis ever tested to determine whether it was accurate?
A. Basically, I mean, other than understanding the composition, chemical composition of the colors, which I described in the email, I mean, I'm not sure that there's a way of testing. I just summarized test data and the results of a process change that we used to eliminate some of the issues that we were seeing.
Q. Okay. Well, what was the process change that was implemented?
A. The process change was to make a change in the beam energy, the electron beam energy during the processing.
Q. Okay. Was it to increase or decrease the energy?

A. Basically, it was to increase it. And the energy is not the dose. It governs the depth of penetration.
Q. Okay. And we're going to get into that, but let me just ask now since you mentioned it. What is the significance of the dose of cross-linking? What does the dose --
A. The dose --
Q. -- indicate?
A. -- would basically relate to the degree, the percentage of cross-linking. There is a specification for PEX that it has to fall between 65 and 89 percent to meet standard for PEX tubing, and so you basically have to determine the dose that you need to apply to achieve that portion of the specification.
Q. Okay. Is that dose measured in something referred to as Mrads?
A. Megarads, correct.
Q. Megarads or Mrads?
A. Yes.
Q. Okay. And then the energy separate from the dose is quantified in megavolts or MEV?
A. That's correct. Million electron

volts.
Q. Million electron volts. Okay. So MEV relates to the energy; megarads relate to the dose?
A. Yes.
Q. Okay. Was NIBCO also experiencing pinholes caused by the cross-linking process in 2012?
A. Not that I recall -- or wait a minute. This is -- well, obviously, yeah, based on this data here.
Q. So this particular issue with the cross-linking causing the pinholes was occurring in both 2011 and 2012, according to this document?
A. Yes. I just don't remember all the details because it's been a long time.
Q. But that change to increase the energy of the cross-linking process, do you recall when that change was implemented?
A. I mean, I know obviously that it was. I don't recall the dates.
Q. In your email, the second from the top on the first page, it's dated Thursday, November 29, 2012, at 9:18 a.m. You say, one

thing that I didn't mention is once we have enough Dow formulation data, we may want to revisit the 4.25 MeV increase for one-inch material. So does that mean that the energy increase you're talking about hadn't occurred as of that date?

A. No. Actually, the pinhole issue that I was referring to was exclusively with the PEX 1006 formulation. The Dow formulation was not PEX 1006. It was a different generation product that I was referring to, just saying we may want to revisit to see if we need it for that new generation product as well.

Q. So at some point prior to when you wrote this email, a 4.25 megavolt increase had been implemented for the 1006 pipe, is that accurate?

A. I believe so. I don't have any information about the date in front of me. Like I said, the Dow is a totally different product. Not the same as PEX 1006.

Q. Right. So you're saying the reformulated product may not suffer from the same issues, and therefore the increase in

energy that was implemented to attempt to fix it may not be necessary, is that -- I'm just trying to understand kind of what you're conveying with this.

MR. KUHLMAN: Object to form.

THE WITNESS: It looks like from what I wrote here that I was uncertain whether or not it would apply to the different formulation.

BY MR SHAMBERG:

Q. But do you believe the energy increase had occurred for the 1006 pipe at some point prior to the date of that email?

A. Honestly, I don't remember the date that it occurred.

Q. Okay. So we talked a bit about the extrusion process of manufacturing. Now we're going to get into cross-linking. I want to ask you a little bit more about that cross-linking process. So we've touched on it before, but, again, what is cross-linking?

A. Basically --

Q. Sorry. Sorry. What is cross-linking -- what is the cross-linking process for PEX-C tubing?

A. The cross-linking process for

PEX-C is irradiation.

Q. Irradiation?

A. Mm-hmm.

Q. How does that work?

A. Basically, the tube is put up on a fixture, and it's spooled off of that -- it's basically reeled off of the spool that it's on. It wraps in a figure eight around the fixture underneath the scan horn and an electron beam, which the constant dose of radiation is applied, and then it's spooled out of the beam and taken up on an uptake fixture.

Q. Is the tubing moving during the cross-linking process?

A. Yes. Yes.

Q. Okay. I --

A. I mean, it's being unspooled going in a figure eight pattern and then coming back to an uptake reel.

Q. At what speed is that unspooling occurring?

A. You know, I don't remember the exact speed. There was a maximum spec that listed like 900 feet per minute, but it was not run at that. It was run much slower than that.

I don't remember what the foot per minute actual is.

Q. And no estimate? Just something fewer than 900?

A. Yeah. Significantly less. I just don't remember what it was.

Q. Is the tubing beamed on all sides during that process?

A. Yes. The fixture -- there's a series of two drums that are in that electron beam facility, and basically there are fingers that are offset that provide the tracks, and that product will form a figure eight, flipping back and forth as it runs under that beam multiple times prior to exit.

Q. Okay. So each -- I know when you're talking about circular pipe the word side might not be accurate, but let's just say each side of the pipe would receive a uniform dose?

A. I mean, it basically rolled when it's in there, so all surfaces would be exposed as it's running back and forth on the tracks.

Q. Okay. So based on what you've said, I think I already know the answer to this

question, but is the tubing in a state of tension during the cross-linking process?
A. Yes.
Q. Is that true for the entirety of the process?
A. Outside of the cross-linking process?
Q. Sorry. Just -- is the tubing under a state of tension throughout the entire cross-linking process?
A. Yes.
Q. And then we have touched on this before, but let's take, for example, just one six-inch piece part of the tubing. How long will that six-inch piece be undergoing the cross-linking process, the E-BEAM process?
A. You know, I couldn't even begin to estimate that. It depends on the speed at which it's running. The pipe may wrap 45 times around the fixture that's in the beam before it finally estimates. I don't know.
Q. Regardless of what the specific speed was, because I know you said you don't recall exactly what it was, would the speeds have varied or was the speed always uniform?

A. The only thing I can tell you was it was slower for the larger diameter material because it's more rigid than the smaller diameter material, but I can't give you an estimate other than that. I mean, you have to run the larger diameter material more slowly so that it doesn't come off of the fixture as it's going through the beam.
Q. Why is PE pipe cross-linked?
A. Basically, I mean, the burst strength is similar between the uncross-linked and cross-linked. Basically, my understanding is to give it more rigidity at higher temperatures.
Q. More rigidity. So firing the electrons at the pipe makes it more rigid?
A. Well, and plus the cross-linking creates a stronger matrix between the molecules in the tubing.
Q. So it strengthens the chemical bond?
A. Yes.
Q. And the molecules in the tubing itself?
A. Yes. And you'd see more of the

effect at higher temperatures.
Q. Okay. What would be higher temperatures, like when would you start to see the effect more pronounced?
A. I don't have an exact -- I mean, I've never specifically researched that area. I don't have an exact number to give you.
Q. Okay. Do you know if that temperature would be within the range of what might occur in a typical residential plumbing application?
A. I don't know.
Q. Okay. I'm just trying to understand if it's like 500 degrees or something.
A. I don't know.
Q. Does cross-linking occur instantly? In other words, when the tubing is no longer going through the cross-linking process itself, when it's not having the electrons shot at it, is it still undergoing chemical changes for some period of time afterwards?
A. Not for PEX-C.
Q. Okay. So for PEX-C, when it's

done being cross-linked, the process is done and that pipe is in its final form the second it comes off the spool?
A. I can't tell you if it's exactly instant, but it happens very quickly and it's cumulative with the PEX-C formulation.
Q. What do you mean cumulative with --
A. Cumulative, meaning that if you dose it today, you get a certain response. If you dose it again tomorrow, it will add to the amount of cross-linking.
Q. Okay. I see. So it's not a case where after it comes off the spool, it sits there for six hours or something, and there are still molecular changes occurring?
A. No.
Q. Can cross-linking tubing increase resistance to creep rupture?
MR. KUHLMAN: Object to form.
BY MR SHAMBERG:
Q. Let me back up for a second. Are you familiar with the term creep rupture?
A. I'm familiar with the term, but that's outside my area of expertise and

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responsibilities so I can't answer that question.
Q. So you wouldn't know one way or the other?
A. No.
Q. Does the degree of cross-linking, in other words, I guess, the -- well, you mentioned there's an industry standard for cross-linking that's for gel content that's 65 to 89 percent, is that right?
A. Yes.
Q. And how would you refer to that? Is that the degree of cross-linking? I just want to make sure we're using the right terminology.
A. That's what I would refer to it as.
Q. Does the degree of cross-linking of PEX-C tubing affect that tubing's chlorine resistance?
A. Not to my knowledge. I mean, my understanding of the standard is it has to be within the window to be PEX, and I've never seen anything that would tell me that it's better to be at this number versus that number.

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I mean, there's a window that they give, and if it's within that window, the product is intended to perform as PEX.
Q. Okay. But aside from just meeting the standard, you're not aware of how the degree of cross-linking affects the chlorine resistance of PEX?
MR. KUHLMAN: Object to form.
THE WITNESS: I've never seen anything published that would indicate there is an effect. I mean, cross-linking is not a linear response. It's not like you give this dose, you get this; you give double the dose, you get double the cross-link. It's the higher the degree of cross-linking, the more dose has to go into it.
At some point, I mean, there's a limit to what you can achieve with a particular type of resin. Certain resins have values that they tend to max out at, and you would really have to dose that product to get it up to the top, if it were even possible.
So, I mean, being on the high end of the spec is not necessarily a good thing, and there's no -- there is no published evidence that being anywhere within that spec with respect to

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chlorine resistance would be a good or a bad thing that I've seen.
BY MR SHAMBERG:
Q. What about being out of the spec? If the tubing was out of the spec, say, 50 percent --
MR. KUHLMAN: Object to form.
BY MR SHAMBERG:
Q. -- what effect would that have on chlorine resistance, if any?
MR. KUHLMAN: Sorry. Object to form.
THE WITNESS: I have never seen anything -- I've never seen anything published with respect to oxidative resistance versus degree of cross-linking. I can tell you in the claims that I've examined I haven't seen any obvious trend where there's a number of cross-linking that corresponds to oxidative failures. I've seen a variety of cross-linking results with the occasional oxidative failures that come in.
BY MR SHAMBERG:
Q. We talked about dose earlier, the dose that's used during the cross-linking process. How does the dose affect the gel content of the tubing?

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A. Well, like I said, it's not a linear response, but your dose is set based on -- obviously, there's a qualification that's done, but you use the minimum dose required to achieve the target level of cross-linking. I mean, the less dose, the less cross-linking; the more dose, the more cross-linking. But, like I said, doubling the dose will not necessarily double the cross-linking. It's not linear.
Q. For the 1006 tubing specifically, did NIBCO have a target level of cross-linking?
A. E-BEAM has a product specification for the product that we process through them, and basically that specifies what the dose is and what the energy is.
Q. Okay. I think my question was a little bit different because there's that gel consent standard that we talked about.
A. Correct.
Q. 65 to 89 percent?
A. Correct.
Q. So in that range specifically, was there a target number that NIBCO wanted to achieve with the 1006 pipe?

A. For the percentage to gel?
Q. Yes.
A. There wasn't a written target. Generally, we wanted to be far enough above the 65 percent that the results, when you test 100 different samples in a row, there was some error inherent in the test process itself. There's some -- you know, just a small amount of -- it's not a perfect, you know, you get the same exact result he have single time. There's a little bit of noise in the test data.
We wanted to make sure that it was high enough that, you know, none of those points would fall below the 65 percent minimum. So typically we saw results, you know, anywhere from like 67 to 70 percent on average. I mean, it's -- there's some variation. Those aren't hard in stone numbers, but they meet the spec.
Q. Was there a reason that NIBCO wasn't trying to achieve 75 percent gel content?
A. Well, the main reason was what I described before where it's not linear. I mean, it sometimes would take a massive amount of additional dose to get just those few

percentage points higher, and there's a risk potentially to causing an adverse affect from doing that. So basically our intent was to meet the standard and ensure that our product met the parameters that were published for PEX. We didn't have a specific target for a goal to get it higher because, like I said, it's not linear. We didn't want to overdose the radiation either.
Q. Okay. So ultimately the goal was to meet the applicable standard --
A. Correct.
Q. -- to meet the 65 percent?
(Thereupon, Plaintiffs' Exhibit 5, Memo from Debbie Premus dated February 20, 2007, was marked for purposes of identification.)
(Thereupon, Plaintiffs' Exhibit 6, email chain Bates stamped NIBCO-Cole 00036756 through NIBCO-Cole 00036761, was marked for purposes of identification.)
BY MR SHAMBERG:
Q. So, Ms. Premus, I want to start with this first document that I gave you that has the Bates stamp NIBCO-Cole 000051857. Do you have that document?

A. Okay. Yes.
Q. Do you recall writing this email?
A. I don't recall writing this specific email.
Q. In the email you're recommending an increase in the dose for all PEX tubing, is that correct?
A. Yes.
Q. And that's based on three additional failing gel tests that you had received?
A. Yes.
Q. When you say additional, were there other failing gel test results that you received prior to that that you recall?
MR. KUHLMAN: Object to form.
THE WITNESS: I can't speculate. I don't know.
BY MR SHAMBERG:
Q. You say you make the request to make the dose change for all product sizes as results for one-inch and half-inch PEX have been uncomfortably close to the lower limit. What to you is uncomfortably close to the lower limit?

A. It's what I just described in our previous questions. Like I said, you can get 100 results and the majority of them can fall, you know, within the specification. You may get a certain percentage of those that tend to fall out the bottom. And basically what I do remember about this particular situation was, obviously, the lower the dose, the lower the cost of processing. And it appears -- the way I wrote this memo, it appears that I know when we started the dose was 28 megarads. It was taken down to 24, I'm presuming for cost savings. And I'm saying here that I want it back at 28, which is where we had historical data, and I knew that when you have these 100 data points, there was enough of a buffer there that it wouldn't potentially fall out the bottom.
Q. So when determining -- when NIBCO is determining the dose at which the tubing will be cross-linked, cost is a factor that's involved, right?
A. For any manufacturing process, no matter what the product, that would be one of the considerations, and quality.

Q. So I want to get a better understanding of what you mean when you say uncomfortably close to the lower limit. So the lower limit is 65 percent, right?
A. Right.
Q. So at what number would you be comfortable?
A. I didn't specify that here. I don't recall exactly writing this memo. I don't know that one could determine a number unless you do further testing. What I was requesting in this memo was that apparently a dose lowering had been made. Based on the results that I received, I felt -- and my role wasn't to look at the cost. It was to look at the quality. I felt that we needed to immediately change back to the historical dose, you know, where I did feel comfortable at that time. Apparently that was what I was thinking when I wrote this memo.
Q. Okay. Even aside from this memo, just asking you now sitting here today, at what percentage of gel content would you feel comfortable?
A. I mean, I don't know that I could

give you an exact number. You know, individual data points can fall above or below, you know, a certain average. I would want those to be high enough that the majority of those data points within a certain amount of confidence are going to fall within the standard for PEX.
You know, I don't want to have -- I don't want to test 100 samples and have five of them fall out the bottom. That would be five blocks of product that would be put on hold from my perspective. I don't look at it from a cost perspective. I look at it from a perspective of meeting the standard.
Q. So would you be comfortable with a result of 65.1 percent?
MR. KUHLMAN: Object to form.
THE WITNESS: 65.1 percent would be a passing result. As an individual result, that meets the standard for PEX.
BY MR SHAMBERG:
Q. Okay. So you would be comfortable with it?
MR. KUHLMAN: Object to form.
THE WITNESS: But if that were an average, I would be concerned that the next sample

might be 64.9 percent. But, I mean, if you have a sample that's 65 percent, that is PEX and that meets the ASTM standard as an individual sample.
BY MR SHAMBERG:
Q. Okay. And is there a percentage at which you would be comfortable, an average percentage at which you would be comfortable?
A. If the percentage is 65 to 89 percent, I'm comfortable because that meets the standard. You know, I don't want to see samples falling out and failing.
Q. Okay. So a passing sample at 65 percent, you'd be okay with that?
A. A 65 percent is a 65 percent pass. I wouldn't want 65 to be my average, but individual data points at 65 percent pass.
Q. Okay. But in this email you're not stating that you're uncomfortable because the numbers are below 65 percent, right?
A. I'm stating in the email that I want to make an immediate adjustment from the 24 back to 28 megarads because there were three samples that were not at least 65 percent. I mean, a passing sample is 65 to 89 percent. If it said fail, it had to have been below

65 percent.
Q. And the results for the one-inch and half-inch PEX were uncomfortably close to that 65 percent limit, right?
A. Not individual results. I'm talking about the average, because my concern would be not for those individual test results. My concern would be the next reel. Is that one also going to be 65 percent or above? I want the average to be set so that there's a little bit of noise in the testing process that's inherent to the process. It's not something that can be minimized.
I want it to be -- I want the average to be high enough that it allows for that little bit of noise in those samples that do measure slightly lower to fall within the requirement for PEX. I'm not sure if I'm being clear with that, but, I mean, basically my goal is not to have a failing sample.
Q. Right.
A. And it's based on probability.
Q. Yeah. I understand. I understand that your goal is to make sure that all the PEX that's produced meets that standard.

MR. KUHLMAN: Object to form.
BY MR SHAMBERG:
Q. I'm just trying to get an understanding based on the language that you wrote in this email as to what number you'd be comfortable with having that average at, and it seems as though you're saying if the average is above 65 percent, you're comfortable, is that accurate?
MR. KUHLMAN: Object to form.
THE WITNESS: No, that's not accurate. What I'm saying is I'm not giving a comfortable level. I'm saying that when we were running at 28 megarads, at that time I wasn't seeing failures. So my comfort level was to go back to that dose because I felt that that gave us enough buffer that I wasn't seeing occasional reels that did not meet the requirement.
I mean, at that time I probably didn't have enough data to say 24, 25, 26, 27. I said let's go back to 28 because I had these three results. And that's as far as -- I can't give you any additional information on that. That's as far as I can tell at the time.
BY MR SHAMBERG:

Q. And you said that typically the historical levels for NIBCO were somewhere in the 67 to 70 percent range? Is that what you testified to?
A. I said that's roughly about, you know, where they fall. And, you know, when I see them in that level, that's not written in stone. That doesn't necessarily say that it has to be 28 megarads. It may be 26. It may be 25. I'm just saying right here at this 24 megarad level, I saw three -- at this particular point in time, I saw three samples that made me question taking it down that low.
Let's take it back to where we know we're getting the results that we feel comfortable with. And if there's any additional work that apparently Earl did at a later point in time, you know, obviously, we would look at more data to determine or fine tune exactly what that point is. I mean, I can't, based on this -- it was outside of my knowledge at the time and, you know, I didn't do the study to optimize that dose.
Q. Okay. I understand that. Let me ask a little bit of a different question.

Strictly from your point of view as the quality assurance manager, would having the dose set at such a level that the gel content was greater than 70 percent have made you more comfortable that the PEX-C tubing that NIBCO was producing would meet the gel content standard in all instances?
A. Not necessarily.
Q. Okay. Why not?
A. I mean, first of all, like I said, we -- from this document here, we had it at 28 megarads data apparently at the time that substantiated that that was sufficient. I mean, like I said, it's not a linear response when you cross-link. And the question would be, you know, how much of a dose does it take to get over 70 percent.
I mean, I don't have that information. That's outside the scope of my responsibility. That would be, you know, more of an engineering project. But there could potentially be reasons why that higher dose and the additional radiation may or may not be a good thing. That's outside of my scope of responsibility or knowledge.

Q. Okay. Did you ever tell anyone at NIBCO that you'd like to see that gel content number be higher?
A. I can't recall. I might have said that, but, like I said, that's outside of my scope. And it would not have had data to substantiate whether or not that was necessarily a good thing. You know, my interest is meeting the spec, and if I feel something has a risk of not meeting the spec, that's when I'm going to, you know, voice an opinion that we need to make a change.
Q. I think we've talked about before about how some of NIBCO had a relationship with JANA Labs, correct? Did JANA Labs perform testing of the PEX-C tubing for NIBCO?
A. Yes.
Q. What kinds of testing did JANA perform?
A. JANA, for a period of time, did our gel testing until we got the process inhouse. That was only within the last couple of years. So we did send out routine production samples for gel, and they also performed certification, annual certification

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testing for us.
Q. Okay. Now that the gel testing is inhouse, where does that occur?
A. It occurs in Lebanon now.
Q. And is all PEX-C tubing still manufactured in Lebanon?
A. Yes.
Q. To your knowledge, has JANA ever informed NIBCO that any of its failed field-returned pipe was insufficiently cross-linked?
MR. KUHLMAN: Object to form.
THE WITNESS: There -- it's been a long time. I don't recall many of them. I think there were one or two situations where there might have been a sample that came back that was listed as below the spec for gel at 65 to 89 percent, but it wasn't something that -- you know, of the samples that came back, like I said, there are any number of reasons that there could be a potential leak in the field. It wasn't anything that there was a correlation with gel. I do remember a few samples. I can't remember specifically what they were at this time.
BY MR SHAMBERG:

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Q. How would PEX-C tubing that did not meet the 65 percent gel content requirement have wound up in the field?
A. Because not every single reel is tested. It's an expensive test. The standard requires one test per week for production. We actually test it at double that frequency.
Q. Twice a week?
A. Two samples per week.
Q. So it's just something that the testing would have missed?
A. Yeah. I mean, you can't test every single inch of pipe that you manufacture. You test at a frequency that you believe is sufficient, and that's -- like I said, the standard calls for one gel test per week. We tested two.
Q. Do you believe that testing twice a week for gel content is sufficient to ensure that the tubing that NIBCO is selling is adequately cross-linked?
A. It appeared to be, yes, basically because we trended that data over a long period of time.
Q. I just want to ask you a couple

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questions about the print stream on the tubing. What's the print stream on the PEX tubing?
A. Basically, it has our trade name. It has the regulatory listing, verbiage, an NSF mark, if it were NSF as the listing agency, or IAPMO mark if it's an IAPMO listing agency. The pressure rating, the lot number, the date that it was cut, coiled, and marked, and the footage.
BY MR SHAMBERG:
Q. When is the print stream applied to the tubing?
A. The print stream is applied to the tubing at the time it's cut and coiled. That would be after cross-linking -- after extrusion and after cross-linking.
Q. So earlier when you described the cut, coil, and mark process, it's the marking part of that?
A. Yes. It's the last stage in the production process.
Q. How is it actually applied to the tubing?
A. It's sprayed onto the tubing. Basically, it's passed on rollers and guides,

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and it goes -- it passes in front of a print head which spray marks the print stream every five feet.
Q. Okay. Have you ever seen a situation where that print stream curves around the pipe?
A. Occasionally that can happen. It's rare.
Q. Okay. Do you know why that happens when it does?
A. It might be because somebody is coiling by hand. It might be that as the product is spooling off of the reel, it just -- it could be that, you know, the product just spools off in that manner or somebody could have bumped the print head during the production process. You know, I can't speculate. I can't tell you exactly what happened.
There are a number of ways that you might see an irregularity on print stream. Sometimes if, you know, they -- if they're cutting and coiling by hand, which a lot of our machines are manual, they actually stop, cut the tubing by hand at the correct footage

marker, they take the coil that's on the apparatus, they pull it off, they put it into a container. You know, they may be jerking the tube at that time. You know, it could cause an irregularity at a particular point in print.

Q. Okay. Just one more kind of general question on this topic. Earlier we talked about the different what I've been referring to as phases of manufacturing, extrusion, cross-link, and the cutting, coiling, and marking, and you described the quality assurance steps that are implemented throughout that process. Did those quality assurance steps differ between CPI and NIBCO?

A. Not really. I don't recall anything other than just gradual improvements in documentation and things over time. Naturally what occurs when you're looking at a decade worth of testing, I mean, really, there was kind of a seamless transition as far as we were concerned in the lab. I don't recall anything at this time that changed markedly.

Q. So generally they were the same?

A. Yes.

Q. And I think you also mentioned at

least for NIBCO that there were what you called production staff checks periodically throughout the process?

A. Yes.

Q. Was that also the case at CPI?

A. Yes.

Q. If someone in the production staff identifies a potential issue with the tubing as it's being manufactured, what happens?

A. It would depend on where it is and it would depend on what it is. Like, for example, if it were at the point of extrusion, they may take a measurement and it may still be in spec but it may be drifting a little bit toward the top of the spec. They would adjust their machine so that they were back at their target. There's the ASTM spec for dimensions.

We had internal targets that were tighter than the ASTM specs just to kind of control and, you know, help standardize our process. And so they would take those measurements as they were making it and adjust their machines accordingly.

If it was detected later in the process where, you know, no adjustment was

possible and they found a result that was suspect or out, that would be submitted to quality and my department would go out and examine the product. If we found it to be out of spec, it would be quarantined, put on hold, and scrapped.

Q. Okay. And that process was generally the same at both CPI and NIBCO?

A. Yes.

MR SHAMBERG: I'm going to move into kind of a different area of questioning. I think this is a good time to do lunch.

(Lunch break.)

BY MR. SHAMBERG:

Q. Okay. Ms. Premus, we're back now after taking a lunch break. You understand that you're still under oath, right?

A. Yes.

Q. I want to ask you a little bit about the purchase of CPI by NIBCO in 2006. When that purchase occurred, how did your day-to-day responsibilities change, if at all?

A. Actually, I don't recall them changing substantially at all. The only difference would be that I was no longer --

well, no, that wasn't -- that was prior to us -- I was thinking -- I was confusing it for a moment with going on to the committee payroll when I was originally with E-BEAM, but I was already on the CPI payroll when the acquisition took place. Really nothing changed --

Q. Okay. So --

A. -- initially.

Q. I didn't mean to cut you off. Essentially, it was kind of -- your paychecks said NIBCO instead of CPI, but other than that, you were basically doing the same job functions?

A. To my recollection.

Q. The manufacturing facility was still the same in Lebanon, right?

A. Yes.

Q. Were other CPI employees retained by NIBCO?

A. Yes.

Q. Do you know about how many were retained?

A. I don't have an exact number.

Q. Okay. How many roughly employees did CPI have at the time of the acquisition?

A. I don't remember. I mean, probably more than 30, less than 60.
Q. Okay. And do you have a recollection as to maybe what percentage of the employees stayed on with NIBCO?
A. I don't.
Q. After the transition from CPI to NIBCO, was NIBCO continuing to use the same equipment to manufacture the PEX-C tubing?
A. To the best of my recollection.
Q. Okay. And yourself and at least some CPI employees stayed on now as NIBCO employees?
A. Yes.
Q. Tom Coe was one of those employees, right?
A. Yes.
Q. Are there any others you can remember?
A. I would say probably most of the people stayed on. There was Larry Smallwood for some amount of time, Bill Robertson, who was in extrusion, for some amount of time, Tracey Cobey, and then hourly employees.
Q. So, in general, there was a pretty

good continuity of the business operation --
A. Yes.
Q. -- after the purchase?
A. Yes.
Q. Okay. After the purchase in 2006 when you became a NIBCO employee, where were field returns of PEX tubing being analyzed?
A. For a period of time, in Lebanon by myself.
Q. You had sole responsibility during a certain period of time for those field returns?
A. Not sole responsibility, but I performed the analysis of the returns that were coming back.
Q. During what period of time did you purchase those analyses?
A. Up until about 2012 or 2013. I don't remember when the exact time was that that ended up getting shifted up to corporate.
Q. Okay. Shifted up to corporate in Elkhardt?
A. Yes.
Q. Okay. So starting in 2012 or 2013, field returns were being analyzed at

corporate headquarters in Elkhardt, Indiana, right?
A. Yes.
Q. Was that the DARE Lab?
A. Yes.
Q. Do you know what the DARE Lab -- well, first of all, do you know what DARE stands for?
A. I don't know what the acronym stands for, but it's the lab that -- it's the corporate laboratory that handles a lot of the returns and product testing for NIBCO.
Q. Do you know why field-returned analyses were moved from Lebanon to Elkhardt in around 2012 or 2013?
A. Yeah. There had been periodic discussion. I would actually -- we were -- with the acquisition, you know, I obviously -- at CPI I was performing the returns for CPI as an organization. That was kind of an abnormality in NIBCO. Most of the returns for most of our sites are evaluated at DARE, so it was basically just to put us in line with the rest of the facilities where they were performing our evaluations as well.

Q. So to centralize everything at corporate headquarters?
A. Correct. I mean, that was what I understood the transition to be.
Q. Okay. Aside from the location of where the analyses were occurring, were there any changes to the process for analyzing field returns?
A. I don't know because I wasn't involved in their process up there.
Q. Since 2012 or 2013 when the DARE Lab took over those analyses, have you performed any analyses of field-returned PEX pipe?
A. I believe there were one or two, and they were ones that were accidentally sent to our location instead of the DARE Lab; and while they were in my possession, they had me go ahead and do the evaluation.
Q. Okay. But aside from those maybe one or two instances, those analyses have occurred exclusively at the DARE Lab since --
A. Yes.
Q. -- that time?
A. Yes.

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Q. 2012 or 2013?
A. The responsibility was shifted.
Q. And you don't know -- do you have any knowledge at all about how those analyses are conducted at the DARE Lab?
A. Unfortunately, I don't.
Q. Who's the most knowledgeable person at NIBCO regarding the failure analysis of field-returned PEX-C tubing?
MR. KUHLMAN: Object to form.
THE WITNESS: I don't know that I could specify any one individual. I mean, there have been, you know, obviously, several of us involved in looking at the returns. There also have been other individuals that have gone out to locations.
BY MR. SHAMBERG:
Q. Well, so who are the individuals that you're aware of who have conducted these analyses for NIBCO?
A. Well, obviously, myself and anyone designated by the DARE Lab management to actually process the claims. And I don't want to speculate on who -- I don't know who all would have been involved in that up there.

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Q. Do you know if Earl Sexton is involved in those analyses?
A. I know he's been involved in some of them. I don't know if he's been involved in all of them.
Q. Do you have -- are you aware, sitting here, of anyone other than yourself and Earl Sexton who has performed these field-returned analyses for NIBCO regarding PEX tubing?
A. I believe there's one other individual that I've not seen, you know, physically his reports.
Q. Who's that individual?
A. I believe Tim O'Brien.
Q. Tim O'Brien. Is he at the DARE Lab?
A. Yes.
Q. Do you know what his job title is?
A. I don't know his title.
Q. Who is -- who runs the DARE Lab?
A. The manager would be Roger Hawn.
Q. Roger Hawn. Okay. How long has he been in that position?
A. I don't know the number of years.

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Q. Do you know who his predecessor was?
A. I don't.
Q. So I guess it's fair to say that since those analyses transitioned up to the DARE Lab, you're sort of out of the loop on what specifically is going on?
A. Yes.
Q. As the quality assurance manager for PEX tubing, is it important for you to be aware of the results of analyses performed on field-returned PEX tubing?
A. If they're determined to be manufacturing errors, yes. And we are notified if there is a manufacturing issue that's identified.
Q. Okay. Is that the only instance in which you would be notified about the outcome of the analysis?
A. To my best knowledge, yes.
Q. Has that occurred? Have you been informed that the conclusion of an analysis of field-returned PEX tubing was that it suffered from a manufacturing defect?
MR. SHAMBERG: Object to form.

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THE WITNESS: Occasionally, yes, that has happened.
BY MR. SHAMBERG:
Q. Okay. Can you just describe those instances for me?
A. I can't recall a specific instance, but there might have been a situation -- well, I remember one where there was a low wall thickness where we went out and we basically found the product or looked for the product to see if we had any additional in stock to put it on hold and then test. I don't recall specifically an outcome. It wasn't recent.
Q. But it was since the DARE Lab took over the analyses?
A. Yes. Yes.
Q. Do you know what training the individuals at the DARE Lab who conduct these failure analyses received?
A. I don't know.
Q. So I understand that you've testified that the transition for this analysis to the DARE Lab was part of a more general centralization of these analyses across product

lines, is that fair?
A. Yes.
Q. So setting that aside and strictly from your point of view as quality assurance manager, do you believe that conducting the failure analyses at the DARE Lab rather than at the manufacturing facility itself is a better option for NIBCO?
A. I don't necessarily consider it a better option. It just -- like I said, it standardized the protocol for analyzing returns because it put the return evaluation in proximity with the department that would honor the warranty claims. You know, we never did that from the Lebanon site.
Q. Do you think it would make sense for the facility that manufactured the product at issue to be responsible for determining whether the product suffered from a manufacturing defect?
A. Not necessarily. I mean, when I was analyzing the claims down in Lebanon, if there were some additional engineering-related questions, you know, I would work with Earl Sexton. Earl Sexton likewise worked with the

DARE Lab. So I don't necessarily see it as advantageous as long as the person, you know, has the ability to perform the analysis. You know, my understanding of the transition was that it was just to standardize the process across NIBCO.
Q. Okay. So then I want to focus on the time period, let's say, strictly with respect to NIBCO from 2006 until about 2012 or 2013 when the DARE Lab took over these failure analyses. Just walk me through the process that you would go through when you received a field-returned piece of PEX tubing for analysis.
A. I mean, any number of claims of any -- you know, could come in for various reasons. I mean, they weren't all the same. First, I would look to see what the product was. If it was a fitting, it would be transferred to the DARE Lab where they have -- when I say metallurgics, I mean beyond just an XRF materials scan. They would be forwarded to DARE, which has more capabilities than we do in that respect.
If they were product that we

manufactured, like the PEX tubing, then it would be examined at NIBCO Lebanon. During the time that I was in charge of that process, it depended on what the claim was. Sometimes a claim would come in for out of round or OD, and, of course, we would check everything that comes in to make sure that it meets the dimensional requirements and such.
And if we looked at it and said, yes, that's a thin wall and we've confirmed it, then at that point the results would be entered into our system as such, and no additional testing would be required. It depends on, like I said, what the claim is. If it's a different type of issue that's alleged, there may be additional testing that's involved. It was based on product knowledge.
Q. Okay. Are you familiar with the term product return authorization?
A. Yes.
Q. What is a product return authorization?
A. Basically when a customer calls in with a problem, our technical services department would take the claim, record what

the customer -- record the information from the customer, and then issue them a form which had my address on it in the Lebanon facility, and they would submit the product along with that form to me for evaluation.
Q. How does NIBCO -- prior to the beginning of your analysis, how would NIBCO go about determining what the particular issue with the tubing was?
MR. KUHLMAN: Object to form.
THE WITNESS: Prior to my analysis?
BY MR. SHAMBERG:
Q. Yeah.
A. I don't know.
Q. Maybe that was -- I can try to rephrase that. So you had said when I asked you what the process is like when you conduct one of these analyses, you said it depends on what the particular issue is, whether it's an out of diameter issue versus, you know, another problem. That might affect how you go about your analysis?
A. By that point, the product already has a return authorization and it's already in my possession. A customer might call the

technical service line and say, you know, we have an enlarged OD or they might say that we have a product leak, and obviously they can't tell over the phone without looking at the product or having the product knowledge what it is.

They would issue a PRA, which would authorize the customer to return that allegedly defective product to me accompanied with the PRA which would give me the number that that claim was filed under in SAP. And then I would conduct my evaluation. I mean, up until that point, you know, it's unknown what the cause or nature of the failure is other than what the customer claims.

Q. Okay. Right. And that's kind of what I was getting at. So if the customer is an end user, you know, an individual who has the PEX tubing installed in his or her home --

A. Right.

Q. -- and that person contacted NIBCO and said, you know, my pipe leaked, then it wouldn't be until you conducted your analysis that NIBCO is able to determine what the problem was with the pipe, is that true?

A. Well, there may be steps subsequent to my analysis, too, that are involved in determining what the cause is.

Q. Okay. So if a customer -- I understand a customer could call in and say, you know, it's an enlarged OD issue. But if a customer calls in and just says there's water coming out of my pipe, I don't know what's going on with it, here it is, and then it comes to you, what steps do you take after you receive the PRA in that pipe?

A. What I would do first is I'd try to visually locate the point at which the water was leaking, and I would preserve that part of the evidence to make sure that it's not damaged or altered in the course of testing. I want to make sure that that's preserved as evidence of the claim.

I would write down my visual observations. I would test the wall thickness, out of diameter dimensions and such just to make sure the pipe left the facility -- at least it still tested within the spec for ASTM wall thickness to make sure that wasn't a potential contributing factor. I would note

anything that I saw pertinent to, you know, whatever the situation was with that on my evaluation form.

Q. And how would your findings be recorded?

A. I would record strictly what I measured or saw. It would be uploaded into SAP. I would basically open our SAP platform, and there was a field in there where I'd put the date, I'd put my initials, and I would indicate that the pipe did or did not meet ASTM dimensional specs for walls and out of diameter.

I would note the type of failure point or, you know, leak point that I saw. Is it perpendicular to the length of tubing? Is it in line with the length of tubing? Is it on the outside of the bend? Is it a brittle failure, which is an oxidative failure. Is it ductile, which is more of a pliable different mode of failure of tubing. Doesn't necessarily point to the root cause type of failure that you could see. There could be any number of environmental or, you know, contributing factors that, you know, may result in that type

of a failure. That's typically a premature aging mode of failure for PEX pipe.

Q. Okay. How would you then go about determining -- so let's use a specific example. For an oxidative-type failure, what steps would you take to determine what caused the failure?

A. You know, I could determine in my lab that it was an oxidative failure. I would require additional assistance from a representative that might, you know, actually go out to the site and, you know, examine the installation. That part I did not do.

Q. Okay. And I think that's what you said before. So have you ever done that in any instance, go out into the field to inspect the installation?

A. I went on one trip, but that was to a plumber. I did not actually see a fail claim in an installation situation. All I saw was a model home that had PEX plumbed to a water heater, but it was not a home that there was a failure in.

Q. Do you know -- with respect to the field-returned analyses that you personally performed for PEX tubing, are you aware of any

instance in which someone from NIBCO went out and did a field inspection of the location where the failure occurred?

A. I've known that that's occurred for at least several instances. I don't know -- I don't necessarily know what the findings are or I can't recall any specific information about them. I do know that that has happened with claims that have come in.

Q. So it has occurred, but the results or whatever the findings were from the inspection weren't then shared with you?

A. I may have seen some of them. I can't specifically remember. But it wasn't something that for every claim it's part of the protocol that -- you know, I did not see the results for every claim as part of the protocol. Maybe occasionally I would see them if there were questions that they had about my evaluation in relation to what they saw.

Q. Okay. So then who at NIBCO is responsible for making the determination after that field inspection occurs as to whether the failure was a result of a manufacturing or design defect versus an issue with installation

or application?

A. Our technical services department would issue the letter to the customer. I was not part of -- I was not involved in that part of the process.

Q. That's Ken McCoy's department?

A. Yes.

Q. Have you worked with Ken McCoy in the past dealing with these analyses?

A. Yes. I mean, not on an individual -- not on an every evaluation basis, but occasionally if there were questions, he would call me.

Q. Do you know whether Mr. McCoy has a background in failure analysis of PEX tubing?

A. I don't know specifically what his background is.

Q. Do you know whether anyone in the technical services department has a background in failure analyses of PEX tubing?

A. I don't know.

Q. But technical services is ultimately the one who's making the determination as to whether to fulfill a warranty claim or not?

A. Yes.

(Thereupon, Plaintiffs' Exhibit 7, email chain Bates stamped NIBCO-Cole 00094921 through 00094928, was marked for purposes of identification.)

BY MR. SHAMBERG:

Q. And, Ms. Premus, I'll invite you to look through this document in its entirety. You certainly should. But my questions are going to focus on just this first page.

A. Okay.

Q. But please feel free to review the entire document.

A. At first I think you scared us with the pile that you have over there.

Q. It's getting a lot smaller.

A. The bond is thick on this. I think you have twice as much paper.

Q. Staples uses quality paper apparently.

A. That they do. Okay.

Q. So, Ms. Premus, I've handed you a document with the Bates number NIBCO-Cole 000094921. The first question I have is have you ever seen this document before?

A. Not to my recollection. I don't recall. I just looked and I don't see myself on the distribution either.

Q. Okay. I want to ask a question relating to the email on that first page of the document from Earl Sexton to Ken McCoy and Jarrod Brigham on Wednesday, June 29, at 11:24 a.m. Do you see that email?

A. Yes.

Q. And does this appear to you to be Earl Sexton's report regarding one of these failure analyses that we were just discussing?

A. Based on this email, yes.

Q. So I want to ask you about one particular phrase he uses a couple of times. And if you look at, I guess, what would be the third paragraph of his email, the one that says microscopic examination shows the inner wall to be discolored, white discoloration, and micro cracking. Both observations suggest exposure to aggressive water. Do you see what language?

A. Yes.

Q. Okay. And then if you look at the bottom, the final paragraph of his email, the second sentence there says he observed

discoloration, and micro cracking of the inner wall surface suggests attack by aggressive water. Do you see that as well?

A. Yes.

Q. Have you heard that term used before, aggressive water?

A. Yes.

Q. What does aggressive water mean to you?

A. Well, it could mean any number of things. It would be a water chemistry that would be conducive to potential oxidative attack.

Q. Okay. What chemical factors would make water aggressive?

A. There are several. It could be pH. It could be oxidative reductive potential or ORP. It could be chlorine. It could be chlorine dioxide. It depends on what sanitizer or chlorination form that a municipal source distributes. There could be other factors as well above beyond what I've sated.

Q. Can temperature make water aggressive?

A. It can make it -- obviously, the

higher the temperature, the potentially, you know, faster a reaction could potentially occur. So, yes, that is also a factor, among other things.

Q. Okay. And you mentioned something called ORP. Did you say that's oxidative reduction potential?

A. Yes.

Q. Can you explain what that is?

A. Basically, it would be like when there's an oxidative failure, it would be like a -- basically like slow degradation over time. Free radicals that would, you know, interact with the surface of tubing, basically producing an oxidative-type effect.

Q. Okay. So you said chlorine level could be one of the factors that would play into --

A. Right.

Q. -- making water aggressive?

A. Residual chlorine.

Q. At what level of chlorine does water become aggressive?

A. I've never heard of a particular level. There is a spec for the percentage of

chlorine that can occur in municipal water. Usually the free chlorine is about one percent for most municipalities, but it can range from -- don't quote me exactly on this, but the spec is wider than that for total chlorine, and so some municipalities may have higher levels or they may use chlorine dioxide in place of chlorine, which is more aggressive.

Q. At what temperature does water become aggressive?

A. I don't know specifically. Just that the warmer the water, the more, you know, aggressive it becomes.

Q. Is there any type of industry standard that defines what aggressive water is?

A. Not that I've ever seen.

Q. Does the product at issue itself affect whether water would be deemed aggressive?

A. Can you repeat that again? I'm not sure.

Q. Can water be aggressive with respect to, for example, one manufacturer's PEX-C tubing and not aggressive with respect to a different manufacturer's PEX-C tubing? The

same one?

A. I don't have enough information to answer that question.

Q. Okay. For PEX-C tubing, we've discussed a little bit in a general sense, but there are certain four-number designation codes that are used for that tubing, is that true?

A. Yes.

Q. And so, for example, the 1006 was a formulation that NIBCO produced, correct?

A. Yes.

Q. What does the one indicate?

A. I believe the first digit is for chlorine. There's a listing -- a designation for like intermittent hot water use versus like continuous recirculation. And the product is considered to meet standard for that application if it receives the designation, the letter -- or the number designation corresponding to whether it's intermittent or continuous.

Q. Okay. What are the other possible number designations for that chlorine aspect?

A. Well, there would be like three or five.

Q. One, three, or five?
A. One, three, or five, yes.
Q. So if you have water where the chemical makeup is the same, could that water potentially be aggressive with respect to a one-rated pipe with respect to chlorine resistance and not aggressive with respect to a 5-designated pipe for chlorine resistance?
MR. KUHLMAN: Object to form.
THE WITNESS: If you were using the product in accordance with the rating, you know, if you have a noncontinuous recirculation product and you use it in a noncontinuous application, that product is supposed to perform to the extrapolated lifetime as any other product. I mean, I don't know that there's a difference between a one or a three or a five. I mean, if you're using it for the correct application that it's listed for, the product is supposed to last for the length of time that it's extrapolated and at least warrantied.
BY MR. SHAMBERG:
Q. Okay. But I'm trying to kind of pin down a little bit what we mean when we talk about what makes water aggressive. So I

understand the products are -- you know, will perform according to the standard that they are certified as meeting. What I wonder is whether the particular product at issue, so, for example, a one-rated pipe versus a five-rated pipe, would impact whether particular water would be considered aggressive in that application?
A. I have no information that would suggest that. I simply can't give an answer.
Q. So is -- so aggressive is somewhat of an amorphous term then?
A. I mean, there are different water chemistries in different regions, some potentially, you know, more extreme than others. That can be a contributing factor to oxidative-type failures. But I mean, there's no -- I can't give you a specific number where that occurs. It just is a potential contributing factor. That's the limit of what I could state for that.
Q. So based on your -- and I understand you can't get into attack, but based on your experience performing field-returned analyses for PEX tubing, how do you believe

Earl Sexton came to the conclusion that the failure in this particular instance was due to aggressive water?
MR. KUHLMAN: Object to form.
THE WITNESS: I didn't perform the evaluation, so I don't know what criteria he used to come to that conclusion.
BY MR. SHAMBERG:
Q. Have you personally ever performed any field-returned analyses of PEX tubing where you determined that the failure was due to aggressive water?
A. I can't -- I can't answer either yes or no because I don't specifically remember individual situations where that might have occurred.
Q. Do you remember in a general sense having ever reached that conclusion in your analyses?
A. I can't remember.
Q. Would you be able to reach that conclusion after performing your analysis?
A. I mean, it just depends on the individual situation. I mean, if I saw discoloration in the interior of the tube, it

would be reasonable to speculate that, you know, something in contact with that interior of the tube could have been a factor in the oxidative failure. You would have to look at the tube to see how the crack propagated, you know. But without having looked at this particular example, you know, I couldn't comment further.
Q. I believe you testified earlier -- and, again, if I'm misstating, please tell me -- you said that you wouldn't be able to determine what the cause of a particular failure was without having some information about the application it was being used in, correct?
MR. KUHLMAN: Object to form.
THE WITNESS: I mean, you would need to have information. Obviously, like I testified earlier, too, there are some situations that come through in the lab where you may have a general idea or clue as to what may have been a contributing factor such as the location of the split, what kind of split it was, whether it was on the outside of the bend.
In this case here he describes

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discoloration on an interior surface. But, like I said, I can't comment on this specific case. But, you know, if I saw a sample that came in where I saw visual evidence of an oxidative attack on a surface that came in contact with water, that would be one valid speculation as to the cause.
BY MR. SHAMBERG:
Q. Okay. In your reading of this email, do you believe that Earl is speculating as to the cause or drawing a conclusion as to the causes?
A. I don't even want to take a guess at it because I don't know. All I have is an email in front of me. I can't testify as to what his frame of thought was at the time he wrote it.
Q. Okay. Then let me ask that a different way. Setting aside any conclusions that Earl Sexton made here, based on the information contained in this email, would you be able to conclude what the cause of the failure was?
A. I won't even speculate based on an email for a sample that I don't know that I've seen.

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Q. Okay. But in your experience, your own personal experience analyzing these field-returned failures, setting aside speculation, in order to make a final determination as to the root cause of the failure, you would need some information about the application in which it's being used, correct?
MR. KUHLMAN: Object to form.
THE WITNESS: It depends on what visual observations I made with the sample. I mean, it depends on -- it's made on a case-by-case basis. I think you're asking me to speculate on something that I really can't in this context.
BY MR. SHAMBERG:
Q. Have there been instances when you've conducted these analyses where you have made a determination as to the cause of a failure without having received any information whatsoever as to the application in which the product is being used?
A. I've made a determination that there are oxidative-type failures, and I've made determinations that, you know, there could be possible contributing factors, but I've not

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specified exactly what -- to my recollection exactly what those factors would be because I couldn't tell without an additional field evaluation.
Q. Okay. Fair enough. So then I want to -- so this email that Mr. Sexton sent, he sent on June 29, 2011, at 11:24 a.m.; is that accurate?
A. Based on what I have in front of me, yes.
Q. That's what the document says, at least. And if you look at the email above, it's an email from Ken McCoy to both Earl Sexton and Jarrod Brigham, and the document says that that was sent on Wednesday, June 29, 2011, at 3:48 p.m.; is that accurate?
A. Based on what I see, yes.
Q. Okay. So that's about somewhere around four -- a little bit over four hours later, right? And in the email Mr. McCoy directs Jarrod Brigham to complete the PER as not defective application issue. I'll stop there. Is that accurate?
MR. KUHLMAN: Object to form.
THE WITNESS: That's what I see

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written on the document.
BY MR. SHAMBERG:
Q. Okay. So at some point in those four hours, Ken McCoy made the determination that the cause of this failure was an application issue rather than product defect, correct?
A. I don't know who made the determination, but, you know, I see the instruction to Jarrod to complete the PERs that's listed in the email.
Q. So someone made that determination?
A. That would appear to be correct.
Q. In those right around four hours, do you believe that would be sufficient time to conduct a field inspection?
A. You know, without being party to this, I don't believe I can answer that question. I believe you'd have to address it to the individuals that were involved. I don't know.
Q. It seems unlikely, though, right?
MR. KUHLMAN: Object to form.
THE WITNESS: I just don't know.

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(Thereupon, Plaintiffs' Exhibit 8, email chain Bates stamped NIBCO-Cole 00037118 through NIBCO-Cole 00037121, was marked for purposes of identification.)

THE WITNESS: Okay.

BY MR. SHAMBERG:

Q. Okay. So I've showed you a document that's Bates stamped NIBCO-Cole 00037118. Have you seen this document before?

A. Yes.

Q. Okay. And I want to focus first on this rather long email that Earl Sexton wrote on April 16, 2008, at 12:15 p.m. kind of at the bottom of the first page. Do you see where that's at?

A. Yes.

Q. Okay. In that email Earl Sexton states that second round of OIT testing was performed, and that the results showed that the terra cotta PEX tubing was falling into the marginal performance range. Is that what the document says?

A. It appears to, based on information provided by JANA at the time.

Q. And then Earl goes on to recommend

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that notwithstanding the low oxidative stability times, that the stability of the terra cotta product should not be addressed at that time?

MR. KUHLMAN: Object to form.

BY MR. SHAMBERG:

Q. Is that what he recommends?

MR. KUHLMAN: Sorry. Object to form.

BY MR. SHAMBERG:

Q. And I'm specifically looking at the last page of the document with the 37121 stamp.

A. As it was written here, that's what it appears to be.

Q. Do you recall now having any discussions with Earl Sexton at that time about whether to address the stability of the terra cotta product?

A. I don't remember. It's been a long time. I don't remember specific instructions. I do, though, remember at the time, you know, there was some discussion about OIT itself as an indicator. It was something that wasn't an ASTM standard requirement. It was listed as an optional tool. I mean, the

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OIT level does not give an extrapolated length of time of service like the chlorine test does. I mean, there have been -- I myself have had some additional learnings about that methodology since the time that this email was written.

Like I said, I don't remember specifics because of the time frame that's elapsed since I've written this email, but, you know, I could probably better testify as to what my line of thinking may have been when I wrote this rather than, you know, Earl who will probably have to answer for himself.

Q. Sure. And that's why I wanted to ask whether you had any discussions with him, to see if you were privy to anything that he said. But -- so, yes, let's focus on, I guess, your response to Earl's email on the first page here. You bring up the idea of improving the OIT for the terra cotta color pipe and suggest that improving the stability time might be a better decision to prevent failures in the long run. Is that kind of what you're saying in this email?

A. That's what I wrote in this email,

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but I've never seen data to substantiate that there would necessarily have been -- I can tell you based on what I see what my line of thought might have been when I put this together. I'm not an expert in OIT testing. You know, I've not had a lot of experience or any experience with it prior to.

When I look at it, when I look at results and see, you know, that a lab indicated that their opinion was that something was potentially low and I see a standard that says, you know, this may be an additional tool, you know, as a scientist and a, you know, supervisor of the quality department, I'm going to bring that up as a potential suggestion just because I'm going to make sure that, you know, we're doing everything we can to produce good product. But, you know, OIT, I've had learning since the time that I wrote this email that, you know, it may not be the tool necessarily that, you know, we thought it might have been at the time.

BY MR. SHAMBERG:

Q. In what way?

A. In what way? I have since learned

that, you know -- and granted, you know, there's no -- it's not a standard test that everyone's running in the industry. I have since learned that the actual number itself doesn't necessarily indicate -- you know, a 10 is not necessarily worse than a 20. It depends on the quality of the anti-oxidant or the anti-oxidant system that's in the product.

This is information that, you know, I've learned from industry sources. I've not seen anything in practice to substantiate one way or another. What I'm told is that that's the reason why we do the chlorine test, to see if a 10 is sufficient for a particular formulation or a 20 is sufficient. I was not part of that research development so I really can't give you any hard numbers or, you know -- I can't really give you a number to say this is sufficient or this isn't sufficient.

The only thing I can say is, looking back, you know, Earl does state with the terra cotta that -- you know, what was it -- 78 years was the extrapolated time. That met the ASTM standard. I really can't relate based on my current learnings what that 10 or

whatever, you know, the result was meant.

Q. Okay. Fair enough. But at least at the time, knowing what you knew then, you had some concern that the low OIT could potentially cause oxidative-type failures in the field, is that fair?

A. Well, I was copied on an email where that was proposed, you know, and I asked the question.

Q. Okay. So it was something that you felt should at least be considered as a possible failure mechanism?

MR. KUHLMAN: Object to form.

THE WITNESS: I thought that the question was worth asking.

BY MR. SHAMBERG:

Q. At the time of this email exchange and shortly thereafter, did NIBCO take any steps to improve the OIT for the terra cotta product?

MR. KUHLMAN: Object to form.

THE WITNESS: That I don't know.

BY MR. SHAMBERG:

Q. Did you have any discussions with anyone at NIBCO about the suggestion you made

in this email?

A. Honestly, I don't recall whether I did or didn't.

Q. Okay. But at least in response to the email, Earl seems to be recommending that you hold off on that project, is that true?

A. I see he indicates that he's working with JANA. You know, I don't recall the results or, you know, what transpired there, only what I see written here. It was 2008. I just don't remember.

Q. Do you believe that Earl is correct when he says there's a risk delaying reformulation of the terra cotta color?

MR. KUHLMAN: Object to form.

THE WITNESS: I mean, based on, you know, what I see that I wrote at the time, I mean, I think there's a question that's being asked. I don't know that there's any data that would substantiate it one way or another. I just don't recall, you know, any additional conversation about this at the time.

BY MR. SHAMBERG:

Q. Okay. So the concern was raised at the time, and it may or may not have been

addressed?

A. That I don't know. I mean, I was only one member of the team. I was at the plant. Earl was a corporate product engineer. You know, I don't know beyond what I see written here what transpired.

Q. As a quality assurance manager at Lebanon --

A. I was a coordinator.

Q. As a quality assurance coordinator, quality coordinator at Lebanon, if a project were undertaken to improve the OIT of the terra cotta product that was being manufactured in Lebanon, is that something you would have needed to know?

A. Not necessarily, because that would not have been a test that we performed as part of the manufacturing process. That would have been something that would have been done with -- probably between corporate and JANA Laboratories as an R&D-type project.

Q. What would be done from a technical standpoint to improve OIT?

A. I just -- I don't know because I wasn't part of that. That's kind of beyond the

scope of my responsibilities.
Q. Would it require some kind of change in the manufacturing method?
A. Not necessarily in the method. Maybe in the materials. I mean, I just simply don't know. I can't answer that question.
Q. Well, obviously, if the pipe just continues to be produced in exactly the same way using the exact same materials, colorant, resin, extrusion process, et cetera, that's not going to improve the OIT, right?
A. I mean, not unless there is an improvement made to one of the materials. I just -- you know, I don't know what or if -- to my knowledge, there was no change in formulation. I don't know, you know, what or if, you know, anything was done with respect to OIT. I don't know. I wasn't part of that decision or follow-up.
Q. Okay. But as far as you know as the quality coordinator, when that 1006 pipe was produced, manufactured by NIBCO, it always followed the same extrusion process, is that true?
A. Right. But that wouldn't

necessarily have anything to do with OIT or the type of improvement that would be required to change that.
Q. The same colorant was always used for the 1006, right?
A. To the best of my knowledge, yes.
Q. Was the same resin also used for the 1006?
A. To the best of my knowledge, yes.
Q. Aside from changes in dose, was the same cross-linking process used for the 1006?
A. To the best of my knowledge, yes.
Q. And was the PEX-C tubing also cut, marked, and coiled following the same process as the 1006?
A. To the best of my knowledge, yes.
Q. If we go back to the last page of this document, part of Earl's initial email on this chain, right above where it says it is recommended, he writes, we are currently working with NSF to test red product for F2023 and develop an independent listing for this product. Do you see that?
A. Yes.

Q. Do you have a recollection of that occurring?
A. I have a recollection of the initiation of this sometime after the acquisition. I initially was responsible for coordinating the listings of our products, and I was working on the listings and testing for the red tubing, and then shortly thereafter the process was taken over by Earl.
Q. Okay. For a listing, you mean a third-party certification?
A. Yes.
Q. It was taken over by Earl? During what period of time were you responsible for those listings?
A. I was responsible from 2004 -- or about 2005, which is when I became solely CPI, and then through the NIBCO acquisition until I can't remember exactly when. It wasn't immediate that the responsibility was transferred, but it was within a year or two. This is obviously 2008, so it was probably sometime prior to this email. I can't tell you how long prior that that responsibility was transferred to Earl.

Q. Who's Mark Clark?
A. Mark Clark is the standards and codes manager at corporate.
Q. And is he also responsible for dealing with third-party certifications?
A. Yes. He would work -- I mean, he would be the individual that would be responsible for obtaining the listings and then for communications back and forth between the certifying agencies. And then Earl would be more of a technical engineer for research and development that may be linked to that.
Q. Okay. So if I'm off base here, tell me, but is it kind of a scenario that Mark would be dealing with IAPMO or NSF or an entity like that, and you or Earl would most likely be dealing with JANA Labs or the testing entity who was actually performing the testing for the standard? Is that kind of how the split worked, or is it different from that?
A. You know, when I first worked for CPI only, I handled all of that. But after the acquisition, it started to be transferred to the appropriate departments, you know, within the NIBCO scheme. Mark Clark -- and I don't

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want to speak for him -- based on my dealings with him, you know, I would go to him for communications back and forth between the agencies.

Like if we had an audit on site and there were questions or follow-ups to the audit, I'd work that through Mark Clark. If there was a question as to laboratory testing, then, you know, that would generally, yes, go through Earl. But eventually, you know, the coordination with those two things, the listing agency was plus third-party testing. Those were transferred to Mark and Earl.

Q. So at the time of this email exchange, which was April of 2008, you had transferred those listing responsibilities that you previously had over to Earl, is that true?

A. Based on the context of the email, it looks like it would have already occurred.

Q. Okay. And I think you said with respect to the project, to seek an independent listing for the red pipe that you said that you recalled the project being initiated. Do you recall what the outcome was?

A. It wasn't in my camp during the

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outcome, but I remember initiating it.

Q. So no knowledge as to whether that listing was obtained or not?

A. The follow-through would have been Earl's responsibility. I don't remember all the details, you know, only the start of the listing for the red.

(Thereupon, Plaintiffs' Exhibit 9, email Bates stamped NIBCO-Cole 00036596, was marked for purposes of identification.)

THE WITNESS: okay.

BY MR. SHAMBERG:

Q. So, Ms. Premus, I've showed you another document that's Bates stamped NIBCO-Cole 000036596. Again, do you recall seeing this document?

A. I don't. I see that I'm copied on it so, I mean, obviously, I did. I just don't specifically remember it.

Q. This is from August of 2008, so a little over eight years ago?

A. Right.

Q. And this is about approximately four months after the email exchange that we were just previously discussing, correct?

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A. Yes.

Q. Does this email indicate to you that NIBCO did not obtain the independent listing for the red colored pipe?

A. I see that they were in the process of resolving some questions. I don't recall what the outcome was.

Q. Okay. In the email Earl Sexton states that JANA was conducting testing on the red pipe and that the extrapolated failure time was 43 years, right?

A. Based on the terra cotta profile, yes.

Q. Based on the terra cotta profile? What do you mean by that?

A. What I mean by that -- and this is up to the point where, you know, I turned the project over to Earl. I initially started the project to do the red dependent transfer listing. And what we had occur -- the independent listing was terra cotta. And as you saw in the previous email, the extrapolated time to failure did, in fact, meet ASTM requirements for the chlorine test.

The situation I ran into with the

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red pipe was that actually the dependent listing uses kind of a truncated smaller sample set and puts the regression on the same curve for what the independent listing is. Basically, it's a condensed testing, assuming that the linear regression is going to be the same between the different colors.

I ended up with a situation where I had samples running for longer than their anticipated fail time for the red, indicating at that time that, you know, we thought that it was a better product. The only thing that this email tells me is that, you know -- not necessarily that the red was bad or that, you know -- it says list 43 years. The reason for that is the regression was simply -- it did not fit the regression for the terra cotta product as a dependent transfer.

Q. Okay. And I do want to ask you some questions about that dependent listing for the red product, but I'm just a little bit confused because wasn't the idea behind the testing being conducted here to obtain an independent listing for the red pipe?

A. See, Earl took the project over.

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That was probably one of the outcomes as a result of the learning from, you know, the initial test where, you know, it became obvious that the regressions were not exactly the same between terra cotta and red. So that probably was a reason why he was seeking the independent listing as opposed to a dependent transfer. But I don't have the data necessarily or I can't recall, at least, the outcome of what that was. That wasn't something that I was handling at the time.

Q. But here in this email Earl's not talking about the extrapolated time to failure for the red based on the full data set from the terra cotta, correct?

MR. KUHLMAN: Object to form.

THE WITNESS: Well, actually, he is, because he's talking about the extrapolated data failure. That would be extrapolated based on those data points that were run probably regressed against the terra cotta curve.

BY MR. SHAMBERG:

Q. Okay. So if NIBCO wanted to get an independent listing for red tubing, what would NIBCO have needed to do to obtain that

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independent listing?

A. I'm hesitant to answer because I -- you know, I wasn't party -- I would have to have been party to the negotiation or discussions with NSF, but at that time that was Earl's responsibility. You'd probably have to ask him that question.

Q. So there's no set protocol that defines the steps that a manufacturer has to take in order to attain an independent listing for a particular color?

A. I mean, they have a policy. That wasn't my responsibility at the time. It was transferred to Earl. I don't recall having that discussion with NSF. I can't tell you what their policy was at the time.

Q. Okay. There was a time period before Earl took over that those kinds of communications with the testing and listing agencies would have been your responsibility, right?

A. Yes. But those policies were in a constant state of change. The new standards were being applied and, you know, new learnings were occurring in the industry. I can't tell

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you what it specifically was at the time Earl made this inquiry.

Q. At the time --

A. I --

Q. I'm sorry. I didn't mean to interrupt you.

A. No, I'm done.

Q. At the time that you were responsible for dealing with these listings and the testing associated with obtaining the listings, what steps would have needed to have been taken to obtain an independent listing for any particular color listing?

A. Well, at the time we had an unbroken listing of the product. I had a situation where I had a dependent transfer that was running, and we expected the fail time of those samples to be at a certain number of weeks; and those samples ran longer, meaning that even though samples ran longer than terra cotta, that we couldn't get an extrapolation. There's a penalty for the samples not falling within a certain, you know, period of time in the bracket, you know, surrounding what the expected fail time was.

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So based on that penalty, we could not get an extrapolated failure time beyond 50 years because those regressions did not fit together. At that point I don't remember discussing next steps because I was in the process of handing it over. So I don't know what the resolution and outcome was. I just know NSF was aware of it. They continued to list our product. We felt at the time it was a longer running sample, but actually it was not a product issue. It was a mathematical or extrapolation issue that we were facing.

Q. Okay. I'll move to strike that as nonresponsive. I'll try to ask what I'm getting at in a little different way. What's the difference between an independent listing and a dependent listing?

A. An independent listing has a full data set. The run time is approximately a year. And a dependent listing assumes that the product is similar enough to the original that it's going to fall along a similar curve. And so it uses a truncated set of data points that run for shorter lengths of time.

Q. So in order to obtain an

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independent listing for red tubing, NIBCO would need to conduct testing on the red tubing that included a full data set?
A. Yes. That would run for about a year in time.
Q. But you're saying that's not the testing that was being conducted here where the time to failure was 43 years?
A. Well, when I did -- you know, we -- you would have to ask Earl specifically about what he's commenting about. I know that what I attempted to do was a dependent transfer with a truncated data set, and we did not need the extrapolation. I'm not sure if that was the 43 years. I don't remember what the number of years was that came out of that. But the extrapolation time fell short because there was a miner's rule and a penalty in the calculation when the curves didn't align exactly as they were expected to. The products were not as similar as we thought they were essentially is what that --
Q. Okay. But even for an independent listing, there's still necessarily some extrapolation, correct?

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A. Yes.
Q. Because -- so, for example, if the time to failure is deemed to be 78 years, obviously, the test isn't running for 78 years, right?
A. That's correct. It's an accelerated aging test is what it is.
Q. Okay. But you don't -- so when Earl says in this email this data is suggesting extrapolated failure time of 43 years which does not meet the 50-year requirement of F876, I guess what you're saying is you're not sure whether he's referring to independent listing testing being conducted on a full data set or a dependent listing based on extrapolations for the red based on the terra cotta profile?
A. Right.
Q. Is that what you're saying?
A. Basically for the data points that you don't run on the dependent listing, you're substituting terra cotta data points for. And so if the terra cotta data points are not indicative of exactly what the red would be, then you get an extrapolation that doesn't necessarily meet. It's a mathematical issue

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because the curves are not exactly the same.
Q. Right. And I guess what I'm asking is in this email and in that sentence right here, do you know whether the 43 years is based on a full data set --
A. I don't know.
Q. -- for the red pipe?
A. I don't know based on this email.
Q. Okay. So you've touched on this a little bit, and now I want to transition to asking you about it more specifically. Are you aware of any other instances in which red PEX-C tubing manufactured by NIBCO has failed to meet the 50-year requirement of F876?
MR. KUHLMAN: Object to form.
THE WITNESS: I can't recall specific reports at this time.
BY MR. SHAMBERG:
Q. You were mentioning a situation where in your view there was a failure because the pipe lasted too long?
A. Yes. Because the data points were not similar enough between red versus terra cotta that you could interplot them and get an extrapolated result, a valid extrapolated

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result.
Q. Okay. That extrapolation is performed, I think, according to a mathematical -- there's a mathematical calculation involved, is that right?
A. That's correct.
Q. Who performs that mathematical calculation?
A. That would be the test laboratory, JANA, that would be doing that.
Q. Do you know who developed that formulation?
A. I really don't.
Q. Do you have any reason to doubt the mathematical soundness of that formulation?
MR. KUHLMAN: Object to form.
BY MR. SHAMBERG:
Q. Formula?
A. One of the -- there were questions during which time the method itself was being implemented across industry. There was actually a task force early in the process where JANA, NSF, and various manufacturers discussed some of these issues. I recall talking about it not just with respect to our

company, but I recall others experiencing some of the same issues. I don't have details of who or more specific information. I do recall that that was a question.

Q. Do you recall when -- is there a term that I should be using to refer to this formula specifically? Is there a name?

A. For the red PEX?

Q. For just the formula that's used to determine the extrapolated time to failure for a dependent listing.

A. Just the -- I guess dependent versus independent. I mean, I don't know of a specific term for it.

Q. Well, if I call it the mathematical formula, you'll know what I'm talking about then?

A. Yes.

Q. I just want to make sure we're using the same term. Do you recall when this mathematical formula was first implemented?

A. I do not.

Q. Was it after you started at CPI?

A. I don't know.

Q. Do you know whether that

mathematical formula is still used today?

A. I do not.

Q. Do you have any reason to believe that JANA has stopped using that formula to determine extrapolated times to failure?

A. I have no knowledge to that effect.

Q. Do you know what the formula is itself? Like could you write it on a blackboard if we had one?

A. Not without going through the standard.

Q. Would you be able to -- if given data points, be able to actually conduct the calculations and arrive at an answer according to that mathematical formula?

A. If I had the standard and if I had time to familiarize myself with the process. I've not been through it personally before.

Q. Is JANA generally a well regarded testing laboratory?

A. They did the NSF testing at the time.

Q. Do you have any reason to doubt the veracity of the test results that JANA

provides to NIBCO?

MR. KUHLMAN: Object to form.

THE WITNESS: I mean, I had no reason to, no. I mean, like I said, we didn't believe it was a product issue. It just seemed to be a mathematical issue that we were dealing with based on the way the standard was written.

BY MR. SHAMBERG:

Q. But as far as you know, no changes have been made to that mathematical formula in the last decade?

A. I don't know.

Q. Can you just explain to me again why the mathematical formula in its application resulted in the red pipe having an extrapolated time to failure that was fewer than 50 years?

A. Without it in front of me and going back over that, I could not sit here and today -- it's been a long time since I've looked at that. You know, I cannot give a more detailed explanation at this point.

Q. Okay. But I think you said there were certain data points that were outside of a required range?

A. Not required. It's just that, you

know, we took certain points data on that regression curve, there was obviously fewer for the red. The ones that were run on the red were put into that plot, but for the conditions at which the red was not run, data points for terra cotta were used in that regression, and they apparently did not line up in a manner that when you apply the mathematical formula that the extraction or that the extrapolation worked according to, you know -- if the regression curves were exactly the same, you should have been able to interplot them in the case of terra cotta versus red. They were not, you know, and basically the two points that resulted in the low extraction number instead of failing at the time that they were expected to fail based on when the terra cotta samples failed, they continued running for weeks longer than the terra cotta did under those conditions.

Q. Are you familiar with the mathematical term outlier?

A. Yes.

Q. Okay. What's an outlier?

A. An outlier is something that

doesn't fall on a linear set of data points. It falls outside of an expected range.

Q. Based on that definition, do you believe that some of the data points that were involved in the red dependent listing were outliers according to the mathematical formula that JANA was applying at the time?

A. Not necessarily.

MR. KUHLMAN: Object to form.

THE WITNESS: Not necessarily. I mean, you can't -- I don't think there's enough information to determine that. Like I said, it's been a long time. It's been a long time since I've went through the standards with respect to that. You know, I don't know that I can further elaborate at this time.

BY MR. SHAMBERG:

Q. Okay. But the bottom line was that the outcome was that the red pipe failed to meet the 50-year requirement?

MR. KUHLMAN: Objection to form.

THE WITNESS: The outcome was that two samples ran for weeks longer than they were anticipated to run, and therefore the calculation didn't meet the dependent listing requirements.

And that's all I can say at the time that I handled that process.

BY MR. SHAMBERG:

Q. Okay. Based on the outcome then and based on that testing and the mathematical formula, NIBCO could not have printed ASTMF876 compliant on its red pipe, correct?

MR. KUHLMAN: Object to form.

THE WITNESS: That's not true because NSF maintained an unbroken listing for the product. The product continued to be listed because NSF felt that it wasn't a product issue, that it was a mathematical and extrapolation issue that we were working through. So they continued to certify our product through that process.

BY MR. SHAMBERG:

Q. How did you become aware that JANA believed it was a mathematical issue and not a product issue?

MR. KUHLMAN: Object to form.

THE WITNESS: Because I was in contact with both JANA and NSF discussing the situation.

BY MR. SHAMBERG:

Q. Was that situation ever resolved?

A. That was transferred to Earl. Like I said, I did not see the completion of the project with red.

Q. Is it possible for PEX tubing to fail in the field even if it meets all necessary third-party certifications standards?

A. Potentially, yes, because there are factors other than manufacturing that can contribute to a failure in the field.

Q. If a product -- if PEX tubing meets all of the necessary third-party certification standards, is it still possible for that tubing to fail in the field due to a manufacturing or design defect?

MR. KUHLMAN: Object to form.

THE WITNESS: There may be specific cases where the product is certified, but, for example, there was a section where there was a thin wall that was a manufacturing defect. Potentially you could have a failure as a result of something like that. So, you know, there are cases where that could occur. There are cases and situations in the field such as the environment or installation or usage, any number of things, can also contribute to a failure with or without a

manufacturing component. And one failure may not necessarily have the same cause as the next.

BY MR. SHAMBERG:

Q. But simply meeting the specification doesn't guarantee performance in the field, right?

A. The product has to be installed correctly and it has to be used under normal conditions, under the conditions of listing. So, I mean, there are circumstances where it potentially could fail for any number of reasons.

Q. But in your view, if a product's met the relevant specifications and failed, that failure would not be attributable to any fault on NIBCO's part?

MR. KUHLMAN: Object to form.

BY MR. SHAMBERG:

Q. Is that what you're saying?

A. Not necessarily. It's on a case-by-case basis. I mean, it may be found in one evaluation that there could have been a manufacturing defect. It may be found in another investigation that it was environmental.

MR. KUHLMAN: We've been going for about an hour and a half. Are you at a reasonable short stopping point?

MR. SHAMBERG: Yeah. We can take five minutes.

(Pause in proceedings.)

(Thereupon, Plaintiffs' Exhibit 10, email chain Bates stamped NIBCO-Cole 00092974 through NIBCO-Cole 00092977, was marked for purposes of identification.)

BY MR. KUHLMAN:

Q. So I've now shown you another document, NIBCO-Cole 00092974 is the Bates number on the first page. Have you seen this document before?

A. Yes. I vaguely remember it.

Q. And I want to start by turning to the last page of the document. We're looking at the very last, first chronologically, email on here that you wrote on Friday, January 15 at 4:17 p.m. Do you see that email?

A. Yes.

Q. The subject is quality report, and is it fair to say that this email is describing your evaluation of a particular PER?

A. Maybe not the full evaluation, but it's in reference to a PER.

Q. Yeah. That's fair. And that that PER dealt with an oxidative-type failure in PEX tubing, correct?

A. Yes.

Q. And it appears that this was actually a product that was manufactured by CPI prior to the acquisition by NIBCO, right?

A. Actually, I can't tell you the date of manufacture because, as I specified right in here, I didn't have a date. The only thing that would give kind of a semi time frame would be that the product was branded NEXT-Pure.

Q. Did NIBCO itself ever manufacture a product branded NEXT-Pure?

A. Prior to the acquisition, we manufactured it for them for -- I don't have an exact length of time. Maybe about a year prior to the acquisition.

Q. Okay. Did NIBCO continue manufacturing NEXT-Pure after the acquisition?

A. The NEXT-Pure name was discontinued. I can't give you an exact date

that that occurred relative to the acquisition. I know that we manufactured it for roughly a year. Like I said, I can't give you a date when it started or stopped.

Q. Okay. I'm just wondering whether it's possible that NIBCO itself could have manufactured a product that was branded NEXT-Pure.

A. I believe it terminated prior to the acquisition, but I can't remember for sure.

Q. So maybe, maybe not; it's just a question of the timing?

A. Right. I don't -- I can't give you an exact timing relative to the acquisition.

Q. Okay. So in this email you said there are two things of note in the investigation, the first being that the customer is in the Lebanon, Missouri, area, rather than the Charlotte and Mobile areas in which we have been seeing this kind of failure. Do you see that?

A. Yes.

Q. And this kind of failure means the oxidative-type failure?

A. I would assume, based on the context of this email was written.

Q. Okay. So what oxidative-type failures was NIBCO seeing in the Charlotte and Mobile areas at that time?

A. I mean, when I first started, and the NEXT-Pure would have been about 2005, I would have only worked for the company for maybe only about a year by the time NEXT-Pure went into production. So, you know, the very first samples that I saw in returns, a few of them, you know, were from the Charlotte and Mobile area that had oxidative-type failures.

As somebody that works in quality, you know, my first reaction is if I see anything that appears to be different than I've seen before, I point it out. As it turns out, you know, my subsequent finding was that at that particular time Charlotte and Mobile and those areas were where the bulk of our product was distributed. So there's probably a correlation with the amount of PEX sold in that area.

Q. More sales in a particular area are probably going to result in more failures

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just because there's more of the product?
A. Correct.
Q. That's what you're saying? Okay. In your time conducting product return analyses for the PEX tubing, do you recall about how many oxidative-type failures you received from the Charlotte and Mobile areas?
A. I can't.
Q. Collectively?
A. Specifically -- I mean, we sold millions and millions and millions of feet down there without claims, so, you know, I can't give you a specific number. It wasn't a huge number.
Q. But enough, I guess, that you noticed that there were these oxidative-type failures occurring specifically in these geographic areas with greater frequency than others?
A. There were more than one. Not a large number but, you know, there were more than one -- there was more than one failure in that general region. That was also where we distributed the greater percentage of our tubing at the time.

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Q. This particular PER relates to an oxidative-type failure in Missouri, right?
A. Right.
Q. Is that, whether Lebanon, Missouri, or Missouri generally, does that -- do you recall that as being another area where you were seeing a number of oxidative-type failures?
A. You know, I just can't remember. We've seen them in other places than Mobile and Charlotte. I just can't remember how many or if there were -- I just don't know at this point without looking.
Q. Are there other places other than Mobile and Charlotte that you recall oxidative-type failures sort of being clustered compared to other areas?
A. I can't specifically point out other areas. There were some areas that have more than one failure, but on the other hand, too, those could have been areas that had a particular builder that built a particular -- you know, a large number of houses using our PEX in those particular areas. They might not have been different customers. It might have

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been one customer with multiple claims.
Q. Okay. Would San Antonio, Texas, be one of those areas?
A. That would be one example.
Q. Can you think of any other examples?
A. Not off the top of my head.
Q. Okay. Next I want to go back just one page to the one that's Bates numbered ending in 92976. And I want to ask you a question about the email you sent on January 25th at 2:33 p.m. Do you see that email?
A. Yes.
Q. Okay. So there's been a discussion of what testing would be appropriate to perform on this sample, and here you're saying essentially that you don't believe gel content testing will give you too much information about the cause of the failure but that OIT testing might give a better answer; does that accurately describe what you're saying here?
MR. KUHLMAN: Object to form.
THE WITNESS: That's what I wrote.

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In gel testing in previous years I had sent out every oxidative-type failures that we had looking to see if that was potentially a contributing factor. As I've stated here, that didn't appear to correlate to that type of observation. As I previously testified, you know, I looked at OIT as a potential tool.
I don't have a great deal of knowledge about the OIT process. I've had some subsequent learnings after talking to people in industry about some of the limitations of the process. It was something that, you know -- me looking for answers as a quality control employee. I was suggesting potential testing that we might perform on the product, just looking for possibilities.
BY MR. KUHLMAN:
Q. Okay. And that kind of study of industry literature and knowledge that you obtained about OIT testing and, I guess, the efficacy of it, did you gain that knowledge before or after the date of this particular email?
A. I can't remember. I mean, throughout my tenure, I periodically reference

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things in industry. I can't tell you what I read or on what date at this point.
Q. At least as of the date of this email, you felt that there could potentially be some value to the OIT testing in terms of determining a cause of the oxidative-type failures, right?
A. At the time I wrote this, it looks like I'm proposing that it's a possibility, but, you know, like I said, I'm not an expert in OIT testing. You know, it was something that I thought possibly, but I -- like I said, I wasn't completely sure. I've had subsequent learnings that, you know, maybe the OIT is not required by the standard, probably the reason is because it does have some limitations in the information that it provides.
Q. But I guess if you thought it was -- if it would have no value whatsoever, then you wouldn't suggest it, right?
A. Not necessarily. I'm suggesting it as a possibility. I mean, if there's something that possibly might give us an answer, I mean, it may or may not, you know, if I have an idea, I'm going to suggest that we

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maybe look at that.
Q. But in the email you say that in your opinion OIT testing is likely to give us a better answer, and we did see a correlation with the NST samples, right? That's what the email says at least?
A. That's what the email says; however, in retrospect, looking back, we only had a very small handful of OIT tests that were run, and I didn't have as much of an understanding of the tests or the meaning of those results at that time.
Q. Well, it seems to me that you gained it pretty quickly, right? Because let's go -- flip back one page. So now we're at Bates stamp 92975. And there's another email from you on Wednesday, January 26, 2011, at 10:34 a.m. Do you see that email?
A. Yes.
Q. And that's one day after the email we were just discussing, correct?
A. Yes.
Q. And in this January 26th email, one of the paragraphs starts OIT, and you say although this method was recommended by JANA

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for this type of failure analysis and was used in the report I sent yesterday, Earl has indicated that recent work done during PEX reformulation seems to suggest that this method may not show reliable correlation with chlorine resistance. Did I read that right?
A. Yes.
Q. So was the basis for your understanding that you gained that OIT testing may not be as helpful as you had originally thought Earl Sexton telling you that?
A. Exclusively that, no. If you look at the way that I worded this, I wrote seems to suggest and may not. I do recall reading industry literature, but I don't recall the title of the publication. It was a researcher that wrote some -- I mean, I went out and I looked for industry literature to educate myself on the process. It's been a long time, so I can't give you exact specifics.
But basically what the industry literature was saying was that the OIT number itself doesn't necessarily respond to a number of extrapolated years. Actually, I spoke to a chemist also who told me that it depends on the

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quality of the anti-oxidant system that we have as to whether it's a 40 or a 30 or 20 or a 10 would be considered sufficient.
It's not -- you can't use a number and say that, you know, this is good for all formulations. It may or may not be. That's what your chlorine testing has to show you. The oxidative testing does not provide that extrapolation data. And then the other thing that the articles seemed to indicate is that your oxidative OIT value could go from high to low very quickly in the first few weeks or months of usage and remain low throughout the period of time, but that does not necessarily mean that your product is not protected.
So, you know, there are some things that were in the literature that I found that, you know, I didn't just take somebody telling me, no, it's not good. I went out just because I wanted to find out the information for myself, whether or not I felt that there would be value in it. And apparently there was more controversy than I originally knew with regard to the test. But, you know, I saw it listed and I threw it out as a possibility at

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the time, and I'm just describing the conversation that I had with Earl.
Q. Okay. So I guess in this time period at least, is it fair to say that you really weren't sure one way or the other whether OIT testing would be beneficial in determining the cause of the oxidative-type failures?
A. That's probably a fair assessment: I mean, it was thrown out as a possibility to look into to resolve a customer claim.
Q. Then you also in this January 26th email, you restate that you don't believe that gel testing is likely to get to the root cause of the failure, right?
A. Yes.
Q. And that's based on your past experience seeing little correlation between oxidative-type failures and low stability in the product, right?
MR. KUHLMAN: Object to form.
THE WITNESS: It was based on my observation between gel values and the visual appearance of an oxidative-type failure. I requested permission when I saw those samples come

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in to, as part of a routine evaluation for a period of time, automatically send out gel testing, and what we found was there was no correlation between gel percentage and oxidative-type claims that were coming in relative to production that, you know, didn't have a claim of failure.
BY MR. KUHLMAN:
Q. Do you recall what the sample size was for that determination?
A. I don't recall. I mean, it might have been in the neighborhood of maybe 20 samples or so. I mean, it was more than just a few.
Q. Okay. So you mentioned that the gel test is not likely to give a root cause for the failure, but an additional test that could demonstrate that the product at issue here was manufactured according to the ASTMF876 standard?
A. Right. And the standard says you need to be within a certain tolerance for OD, wall, gel, and a number of other tests. And it was just one additional test that we could do to show that we, in good faith, manufactured to

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the standard that was put out for industry at the time.
Q. But at least in your view, that testing might show compliance with the specification, but it wouldn't identify the cause of the particular failure at issue?
A. Right. It would show that we manufactured the product to spec, but as we talked about earlier, I mean, you could have a product that meets all specifications. But if it's exposed to something that, you know, wouldn't be considered an ordinary condition of use or is used in a way that isn't according to the listing or some other environmental factor comes into play, I mean, those things can cause a premature failure as well.
Q. Do you recall what testing was ultimately performed on this particular sample?
A. I can't. Not sitting here at this time.
Q. If we go to the first page of the document, there's an email from Randy Doering on Friday, January 28th, 8:24 a.m. Do you see that?
A. Yes.

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Q. And he says, okay, on this sample which had no evidence of swelling, let's send it I (sic) and get a positive ID on the gel. What is lead time? So he's asking specifically about the gel testing, right?
A. Yes.
Q. In this email does he ask about conducting OIT testing?
A. I don't see that.
Q. Does he ask about conducting extraction and FTIR testing?
A. I see that in reference to a conversation he had with another individual.
Q. Okay. Where do you see that?
A. I see that on page 2. Actually, page -- the end of page 1 and the beginning of page 2.
Q. Okay. And in that email you're talking about for Randy Doering Thursday, January 27, 2011, 4:58 p.m., does he also say it seems to be that we need to develop this same level of inhouse evaluation? Do you see where he says that?
A. I see where he mentions that in the one paragraph.

Q. And is he referring to that extraction and FTIR testing that I mentioned there?
A. I don't know if he's specifically referring to those. I've never found any other reference to those tests being performed on PEX. You know, it's been so long, I can't remember specifically what the outcome of this was, but I know that those aren't typical tests that are run for PEX tubing. They're not mentioned in the standards.
Q. Okay. So that's fair enough. In his email on January 28th at least on the first page, he's strictly asking about the gel testing, though, right?
A. Yes.
Q. And that was the testing based on the previous emails in the chain that was least likely to get to the root cause of the failure, correct?
A. Well, I mean, I couldn't say that it's more likely or least likely than any of the other methods listed. I mean, the other methods were proposed as just other ideas. I mean, it could have been that they told us

nothing, but I just simply don't know.
Q. Well, you had described the gel test as not likely to give a root cause for the failure, right?
A. Based on testing that I had done, I didn't have data on any of the other procedures.
Q. But at least in your January 25th email, you had taken the position that the OIT testing is likely to give a better answer as to the cause than the gel testing, right?
A. That was a speculation at the time. I mean, like I said, I'm not an expert in it. You know, I've never seen data to support that. I don't know why I wrote it that way. Obviously, looking at the discussion that I had with Earl, obviously, you know, we discussed that. I don't remember the details at this time.
You know, basically, what I would have been doing is looking at standards and seeing, okay, this was a nonmandatory method that was mentioned as a potential tool, you know, so I'm throwing it out there as part of our team and for discussion.

Q. Okay. So in retrospect, it might have been more accurate to say the OIT testing may or may not give us a better answer?
A. Correct.
Q. Then just to finish up with this document, in the very, I suppose, chronologically last email but the very first one on the first page, it's an email that you sent on February 1st, 2011, and you are identifying another oxidative-type failure involving NIBCO tubing in Olney, Texas, is that right?
A. Based on the email, yes.
Q. So now in this email chain we've heard references to oxidative-type failures in Mobile, Charlotte, Lebanon, Missouri, and Olney, Texas, correct?
A. Yes.
Q. Given the geographic disbursement, did you have any concern at the time that the oxidative failures might be due to the product itself rather than to environmental factors?
A. Not specifically. I was just at this point, you know, it appears -- again, it's been a while since this email transpired. You

know, it appears from this email that I'm just saying heads up, you know, here comes one that -- you know, this is from an area different than I've seen before. But on the other hand, these failures -- I mean, I started working for E-BEAM in 2004.
By 2005 I went to CPI exclusively. That was approximately when I started getting involved in the evaluations of these samples. This is 2011. But typically, you know, four to six, sometimes ten years pass between the time that a sample gets installed and you actually see the failure in the field. So, you know, at some point, I can't tell you whether it was when this email was written, but maybe around that particular time, you know, I started seeing now samples coming in from different areas than where I had analyzed to begin with.
When I first started, we only had two extrusion lines, you know, and our business was much smaller, and apparently at that time the majority of our product was distributed in the Charlotte and Mobile area through one of our distributors down there. So, you know, just all I'm doing in this email based on what

I can recall and what I see I wrote here because, again, it's been a long time, is just pointing out something that appears to me on the surface to be different.

Q. Does NIBCO have a warranty that covers its PEX tubing?

A. Yes, it does.

Q. Do you know what the terms of the warranty are?

A. I can't recite the fine print without looking at a copy of it. It does have a number of years that we warrant the product for depending on whether -- the number of years, depending on whether the product is used with our fittings or with a set of fittings that are, you know, not of a NIBCO origin.

Q. If a plumbing application is installed using only NIBCO tubing, let's say, and a different manufacturer's fittings and clamps, do you know what the time of the warranty is?

A. You know, I'd really have to look. I know it's shorter than if they use our fittings with the tubing.

Q. So in this email we've been

focusing on a few specific PERs that came into NIBCO. Talking more generally about PERs, what's the purpose of tracking PERs from NIBCO's perspective?

A. Just so that we see how many come in during a particular year and if we see repeats of the same type of issue.

Q. Okay. So that was actually going to be my next question. Is there someone at NIBCO who's tasked with looking for trends in the PERs that come in?

A. The technical services department, I believe at the time, published -- and I don't know. I'm not on the distribution for that now. I believe at one time they published a trend, and I also have a report when I was doing the PER evaluations that I would put out.

Q. So technical services. How long was Ken McCoy the manager of technical services? When did he start in that role approximately?

A. You know, I can't remember. I would just be speculating.

Q. Okay. But during his tenure, he would have had the primary responsibility for

looking for trends in the PERs that came in? Is that true or not?

A. I think it would depend on who was doing the evaluations at the time. You know, I had a weekly quality report that I put out that didn't trend it by root cause, but it trended it by type of failure that came in. But that was the plant level specifically dealing with our product and no other location.

Q. During what time period were you creating those weekly quality reports?

A. That would have been during the time that I was evaluating the product, so up until roughly maybe 2013.

Q. Okay. Starting I guess in 2006 when NIBCO acquired CPI?

A. I can't remember exactly when I started trending it. I mean, when I first started, there was no formal process for tracking those things. I started that system myself just so that I could keep a running spreadsheet and track claims that came in. I numbered them locally by the last two digits of the year, hyphen, with then the number of the claim that came in on that year.

Q. Do you know whether you provided those quality reports to your attorneys in connection with this lawsuit?

A. I turned over all the documentation. They would have been contained within that.

Q. Okay. What do you mean by that exactly? Because the quality reports were documents, right, that you created?

A. I mean, I know it's been turned over because I've seen it in previous depositions. Basically, it was a spreadsheet that had a list of claims by year, you know, and the very last tab of that, if you had that spreadsheet, they had to have access to the tab that had the trend charts on it, too. It was an electronic file.

Q. Okay. So when you were talking about these weekly quality reports, I guess in my mind I was envisioning, you know, a document weekly quality report that had the information in it and there would be a different one produced each week. But you're saying that's not the case? It was really kind of one living document?

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A. It was one spreadsheet that was just added to on a weekly basis.
Q. Okay. I see. Would you periodically go back to review that document to see kind of the larger trends over weeks or months?
A. I would look at it every time I made an entry into it with a new claim because that would factor into the charts that I had on the last page.
Q. Okay. I mean, I understood you looked at it when you updated it, but were you looking at it specifically to see what the trends were in certain failures over time?
A. Periodically, yes.
Q. Do you recall any trends that you observed with respect to the PEX-C tubing?
A. I mean, we had certain categories of -- I mean, overall our number of claims were relatively small compared to the number of feet of product that we put out in the market. I mean, we put millions and millions and millions of feet out. There were certain claims that didn't occur at a high frequency but were maybe higher with respect than others.

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Q. And when you say claim, claims that you received, are you referring then to situations where a product return authorization form was issued and a product was sent into NIBCO for testing?
A. A product was sent to our site for testing. I didn't -- I only trended what was processed through our location.
Q. Right. And so let me just clarify. When we're talking about this topic and your quality reports, I am limiting that to just the PEX tubing that was manufactured at Lebanon, so that's really what my questions are about, okay? I'm not asking about broader products. What trends did you observe in the PEX-C tubing failures?
A. I mean, there were certain types of -- or categories. I can't -- you know, it's been a couple of years. I can't remember exactly how I had it set out. I mean, it was something that I generated for internal purposes at our location.
There were sometimes -- you know, dimples or cosmetic defects, oxidative leaks were another category that we had, you know,

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that we saw, you know, relative to the other claims coming in, you know, maybe a few more of those. But, I mean, again, the numbers were relatively small relative to the number of customers and the amount of PEX that we put out. But, yes, that was something that we saw in our trend charts.
Q. Okay. Let me ask this. If a customer called NIBCO and said I have experienced an oxidative-type failure in my NIBCO tubing, but that customer did not ultimately complete the product return authorization form and did not send a sample in to you at that point for analysis of the sample, would that complaint about an oxidative-type failure have been included in this spreadsheet that we've been discussing?
A. First, I'm unaware of any specific cases where that's happened, but my trend chart was for the results of the evaluations completed at Lebanon. So regardless of the root cause for an oxidative failure, if it was an oxidative failure, it was reported as such in that category. If it was something that I did not see or examine myself -- and, again,

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you know, I'm not aware of that happening -- that would not be reflected in my trend chart.
Q. Are the failure analyses that you perform and the results that you arrive at through that analysis shared with the customer who initiated the PER?
A. No. That's an internal tracking process.
Q. Why doesn't NIBCO share those results with the customer?
A. Because it's an internal process. I mean, it's a pooled document that has all claims together. It's just an internal tracking process that we have at the Lebanon facility. What was shared was, you know, through technical services when they responded to the customer the results of that particular evaluation involving their product.
Q. Is it also because NIBCO would not want to share results that reflected poorly on NIBCO with a customer?
A. That was never a reason that was discussed. I mean, it was just something that I personally generated to track my work that I was doing so that, you know, if somebody called

me and said do you remember that evaluation that you did three years ago, that spreadsheet was primarily a result of tracking that. But I also on a Mac pad put a tab in where I basically took the data and I basically put it into categories and just for my only personal tracking purposes.

Q. All right. So I understand that the decision as to whether to share those analyses with the customer wasn't your decision.

A. Well, and the data, too, could provide -- could potentially provide a skewed result. I could have one individual customer. They might have had, you know, X number of houses. If they had ten houses and they said, you know, we have a leak and, you know, we're calling all of these houses, you know, part of the claim, they would have ten separate entries, you know, on that particular year.

I mean, so basically what I was looking at was essentially the raw number of claims. It wasn't anything that was designed on a -- it wasn't necessarily apples to apples. It was, you know, the raw number of claims that

came in were put into a category and trended, and, no, it wasn't something I would have made a decision to share because, like I said, it was an internal Lebanon tracking document.

Q. Okay. I'll move to strike that as nonresponsive only because I think you're talking again about that weekly report, the document that contained information about the weekly report, and I guess I'm asking more specifically about the report that you would generate in a particular instance after evaluating field-returned sample.

So a customer gets the product return authorization form. Sends the sample in. You analyze it to determine whether it's within or out of spec, what type of defect it seems to have exhibited, and then you create some kind of written summary report of your findings, right?

A. Yes.

Q. So that written report specifically, not the trends or the tracking with that, but just that report in that instance, do you think NIBCO should share that report with the customer?

A. When I conducted evaluations, my written report was scanned into SAP for each individual evaluation that I conducted. Whether it should be shared with a customer, you know, a layperson, probably looking at the formatted report may or may not understand based on looking at the data collection record without a summary. You know, I really don't have an opinion on that. You know, I wasn't the one that made the determination what to share and in what format.

Q. That was technical services?

A. That was technical services, and so I can't comment on what decision was made and why.

Q. If it were up to you and you were the decision-maker, would you share that report with a customer?

A. I simply can't speculate because I've not been in that position. You know, I uploaded both a report which was my raw data and I also summarized that data as well in SAP.

(Thereupon, Plaintiffs' Exhibit 11, email chain beginning with Bates stamp NIBCO-Cole 00035758, was marked for purposes of

identification.)

THE WITNESS: Okay.

BY MR. KUHLMAN:

Q. Okay. So I've shown you another document that's an email chain. And though the numbers are cut off at the bottom, I'll represent for the record this document begins at Bates number NIBCO-Cole 00035758. Ms. Premus, I'll ask you again, have you seen this document before?

A. I vaguely recall having seen it, but I can't really remember many of the details.

Q. Okay. And this is an email chain discussing a failure of PEX tubing at an individual's residence, is that a fair description?

A. Based on the initial email, yes.

Q. Okay. And then if we turn to the second to last page of the document, at the bottom of that page there is an email that you wrote on Friday, September 21st, 2011, at 12:49 p.m. Do you see that email?

A. Yes.

Q. In that email you raise the

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possibility of covering Mr. Neisler who seems to be the homeowner at issue here -- Mr. Neisler's expense in potentially replacing additional pipe in return for the ability to thoroughly evaluate his system, the water conditions, and recover product from the site for an internal investigation. Is that what you're saying in the email?

A. That appears to be.

Q. And then you ask would this be taking on too much liability or could it help avoid the liability of placing a probable oxidative failure report in the hands of a homeowner if we cannot be sure of the exact conditions that led to the problem. Do you see that sentence?

A. Yes.

Q. So is some of the concern there that putting a NIBCO report stating that an OVI failure occurred in a tubing issue could potentially cause a liability issue for NIBCO?

MR. KUHLMAN: Object to form.

THE WITNESS: I mean, my intent is to make -- obviously from the email that I have in front of me is to make it right for the customer.

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But on the other hand, you know, and this has been a long time, I don't specifically remember the details surrounding this. But based on what I've written and how I've written it, it appears that -- you know, I'm not a lawyer. I don't understand liability. You know, I'm a quality control professional. You know, my job is to test and make sure that the product meets the standard.

I'm not sure what the outcome is going to be. You know, I don't know whether -- based on what I've written here, I don't know whether it's going to turn out to be a manufacturing or an environmental issue. And so it appears that I was just asking the question. The last page says, I'm considering both the needs of the customer and that, you know, we're trying to investigate issues that are in the field as well.

BY MR. KUHLMAN:

Q. Right. So let me ask about that actually. What were the other issues in the field that you're referencing here?

A. I don't -- I mean, it's been since 2007. At this time I couldn't tell you based on what's in this email.

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Q. I understand you're not a lawyer, and I'm not going to ask you to define what liability is or when NIBCO would be liable with certain circumstances. But I am curious why you felt when you wrote this email that it could be a potential liability to place a failure report in the hands of a homeowner?

MR. KUHLMAN: Object to form.

THE WITNESS: I simply at this time could not tell you.

BY MR. KUHLMAN:

Q. Okay. But in the email you were at least expressing some concern about that?

MR. KUHLMAN: Object to form.

THE WITNESS: I wrote what I wrote in the email. I can't tell you what I was thinking at the time. I do know as a quality professional, you know, laboratories aren't infallible, and at that time I also know that, you know, we didn't know necessarily what the outcome would be. Like I said, I was looking at the interests of the company and for the individual customer as well.

BY MR. KUHLMAN:

Q. And then the email chain goes on to discuss potential testing that JANA could

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perform on the samples that the homeowner provided, correct?

A. Yes. With additional samples added that were from other homeowners.

Q. And then there's a discussion about -- well, at least Ken McCoy expresses a desire to keep the results of any testing exclusively within NIBCO's control, correct?

MR. KUHLMAN: Object to form.

BY MR. KUHLMAN:

Q. I'm specifically referring to his email on Friday, September 21st, at 1:09 p.m.

A. I can't speculate his reasoning, but that's apparently what he wrote.

Q. Okay. And then the email immediately following that that you wrote on September 21st at 1:27 p.m., you finished that email by saying we may need a different quotation containing all samples to give us exclusive rights to the results. Do you see that?

A. Well, yes, because we would be adding -- apparently according to this email chain, we would be adding samples from other customers that were not exclusive to this one

individual customer that we started discussing at the beginning of the chain. They may or may not have similar causes, so --

Q. So when you say we may need a different quotation containing all samples, are you excluding the samples that Mr. Neisler provided?

A. You know, this -- I can't -- this email is from 2007. To me, reading it, it would appear that the new quotation was for Mr. Neisler's sample plus additional samples from other customers to be added to that sample, at least from the way it reads. I can't -- I mean, it's been since 2007. I don't remember exactly what the chain of thought was or what necessarily transpired with this.

Q. Okay. I don't know if this context clarifies that for you at all, but if we go to the next email from Kurt Mast, September 21st, 2007, at 2:03 p.m., first of all, who -- well, it says Curt Mast was the technical services manager, right, at that time?

A. At that time, correct.

Q. That was before Ken McCoy took

over in that role?

A. Yes.

Q. And in the second paragraph of his email, Mr. Mast says maybe our best option is to do a goodwill with Mr. Neisler so that we do not have to share the results. We could simply pass it off as the most economical approach, and it sounds like he would be receptive to this.

Does that indicate to you that NIBCO wants to keep the results of the testing it performs on Mr. Neisler's samples within its exclusive control?

MR. KUHLMAN: Object to form.

THE WITNESS: I can only see what's written here. I mean, I can't speculate as to the train of thought of any individual other than myself.

BY MR. KUHLMAN:

Q. But that's what it says, right, in the document at least?

A. I mean, I see what's written here in front of me. Like I said, I can't speculate as to why it was written that way or what his train of thought might have been at the time.

Q. So without trying to speculate as to what other people were thinking, which is fair, is it accurate to say that Ken McCoy sent an email stating I think we want to keep the results solely in our hands to disseminate as we see fit? You followed that up with an email stating that you might need a different quotation to give NIBCO exclusive rights to the results, and then Mr. Mast followed that up with an email suggesting the best option might be to make a goodwill payment to Neisler so that NIBCO does not have to share the results. That's what this document says, right?

MR. KUHLMAN: Object to form.

THE WITNESS: I can only tell you -- I can only speak to what I personally wrote. Like I said, it's been a long time. I don't remember all the facts around this. But, you know, looking at what I wrote, my train of thought appeared to be that if we're going to pull multiple samples from multiple customers together, we would need a new quote for that. And then it would become a NIBCO report as opposed to a report under the name of a customer, you know.

That at face value is simply what I

wrote. You know, I can't offer any speculation as to what other people were thinking at the time. Just an observation that, you know, we would need a new quote if we pulled from multiple samples together, and then it would be a NIBCO report. The original quote would not be valid anymore.

BY MR. KUHLMAN:

Q. One more question about this document. Going back then to the very first page of the document and one more email from Ken McCoy that was sent on September 25, 2007, at 11:34 a.m., do you see that email?

A. Yes.

Q. If we turn to the next page and look at what Mr. McCoy is writing, he says as it stands now, the JANA Labs quote was instigated by Neisler and he'd own the results of that testing if we pursued it. He'd be able to take those results and make them public, for example. By making a goodwill payment, Neisler relinquishes his claim to the failed pieces. Is that what Mr. McCoy's email says?

A. That's what's written on here.

Q. Does that statement in any way alter your previous testimony about the context

of this email chain?
MR. KUHLMAN: Object to form.
THE WITNESS: I mean, again, you're asking me to speculate on thought process of other individuals. I can testify to what I wrote and, you know, probably why. I can't testify to the thought process of somebody other than myself. You know, I can, as you, you know, simply look at what's written.
BY MR. KUHLMAN:
Q. And what's written by Mr. McCoy is that making a goodwill payment would allow NIBCO to have exclusive rights to the test results so that Mr. Neisler would not be able to make those results public, for example?
MR. KUHLMAN: Object to form.
THE WITNESS: I mean, I don't know his thought process or rationale. I mean, I can only see what I have written on this document.
BY MR. KUHLMAN:
Q. Fair enough. And that's what the document says, though, right?
MR. KUHLMAN: Object to form.
THE WITNESS: I mean, I -- yes, that's what the document says.

BY MR. KUHLMAN:
Q. At some point NIBCO reformulated its PEX-C tubing, correct?
A. Yes.
Q. And that reformulation had a designation of 3308?
A. Correct.
Q. What was the purpose of the reformulation project?
A. That was a marketing decision. I'm not sure that I know all of the facts with respect to that. I mean, that would be more of a marketing question.
Q. Did anyone at NIBCO ever explain to you the reasoning that the product was being reformulated?
A. Not that I can remember.
Q. Did you ever ask anyone at NIBCO why the product was being reformulated?
A. Honestly, I don't remember.
Q. Okay. So you may have asked, you may not have asked; you just don't remember sitting here today right now?
A. I simply don't remember.
Q. How did the reformulated PEX

tubing differ from the 1006 tubing?
A. I know there was a different resin supplier and there were different color additive part numbers, but I don't know everything that was done in the reformulation process. That would have been at corporate level.
Q. As the quality coordinator at NIBCO and specifically for the PEX-C tubing, do you feel it's important to know what materials are being used to manufacture the tubing?
A. Well, I did know. I knew the manufacture of the resin. It was a polyethylene resin. It was a color package and it had a UVA stabilizer pack in it. But, you know, what specific changes were made, not necessarily. My job involved manufacturing quality and testing to make sure that, you know, what was listed and what was handed down was manufactured according to standard.
Q. As the quality coordinator at NIBCO for PEX-C tubing, was it important for you to know why NIBCO was manufacturing an entirely new product for which you had quality responsibility?

A. I mean, not necessarily. I mean, in application there may be some customers looking for a tubing that has a rating for continuous recirculation. You know, it might have been -- I just simply don't know what the rationale was behind it. It could have been a purely marketing decision.
Q. What makes you believe that it was a marketing decision? Is that how it was expressed to you?
A. I don't know. I simply don't remember and I don't remember having the discussion. I simply don't know. I don't know that it was. I don't know that it wasn't. You know, I know that there were more applications for continuous recirc because it could be used for both intermittent and continuous, but I don't know if that was a factor or not. I simply wasn't involved in that or can't remember discussions that I had. I just don't know.
Q. Okay. So you're just kind of speculating or guessing that it might have been a marketing decision?
A. I'm saying it could have been. I

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don't know.
Q. It could have been like anything could happen in the world or do you have any basis to think that?
A. I simply don't -- I have no basis to think that. I just don't know what the rationale was. You'd have to ask the people involved with that.
Q. Are you aware that Mark Clark, Ken McCoy, and Earl Sexton have all also previously testified in this case that the reformulation was a marketing decision?
A. I haven't had discussions with them. I've not seen any other depositions. You know, I wasn't aware that they've already testified for this case.
Q. But no one at NIBCO ever told you that it was a marketing decision? That was just something you kind of threw out as a possibility?
A. Not that I can remember. I mean, I'm just, you know, somebody thinking, okay, if I were in that role, you know, why might I seek a different listing. I mean, it's just a possibility, you know, based on industry

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knowledge. I simply don't know.
Q. Did you have any role in the reformulation product?
A. Really, no.
Q. Setting aside the reformulation project, when you had communications with JANA as a part of your job responsibilities, with whom at JANA did you communicate?
A. The person I communicated with the most was Sarah Chung, and that was because up until recently we used to do routine manufacturing gel testing with them.
Q. Okay. Until you had brought those capabilities inhouse?
A. Correct.
Q. Did you ever communicate with someone named Alicia Valentine at JANA labs?
A. Yes, but that was way back before the acquisition when I did have those responsibilities.
Q. So that's when you were with E-BEAM and CPI?
A. Correct.
Q. Was it during both of those years, E-BEAM and CPI that you would have had those

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communications or just when you were with CPI?
A. Probably just with CPI.
Q. And what were those communications -- what was the content of those communications?
A. Basically establishing an NSF listing.
Q. For PEX tubing?
A. Yes.
Q. Was it a specific color or multiple colors?
A. Multiple colors, and I believe actually the person I initially had consultation with was Nazarene Kashay (phonetic). Alicia later took a role as a project leader for NIBCO. But the original listing was set up through Nazarene.
Q. Was that the terra cotta listing, the initial listing, or do you recall?
A. The terra cotta was the independent listing, and then we had the department listings based on the terra cotta profile. But I can't remember all the details. That's been 12 years ago.
Q. Okay. So when you say you were

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communicating with Nazarene about the listing, you're just not sure which listing that was because it was so many years ago?
A. I was thinking all of our colors were listed, but I don't remember the sequence and I don't remember the specifics. It's been a long time.
Q. Who owns NIBCO?
A. Who owns NIBCO? I mean, we have the Martin family and obviously we have our board of directors.
Q. Okay. What's the Martin family's role in NIBCO?
A. I think Rex Martin is or was chairman of the board, CEO. His wife, Alice, currently I'm not sure what her role is, but for a while she was the chief people officer, the head of HR.
Q. Any other Martins involved legally with NIBCO?
A. Their daughter Ashley more recently.
Q. What's Ashley's role at the company?
A. You know, I'm not sure what she's

doing now. She managed the Lebanon site for probably about a year, and then she transferred on to a different role in the organization. That was relatively recent.

Q. Managed the Lebanon facility, was within the last, say, three years?

A. Yeah.

Q. And she did that for about a year approximately?

A. Approximately.

Q. So were you working with her on a day-to-day basis then in your role?

A. I reported to her, but I didn't see her on a day-to-day basis. She traveled back and forth between Elkhardt and Lebanon.

Q. Okay. And she was -- in that role she was responsible for the operations of the Lebanon plant?

A. During that time, yes.

Q. Including the manufacture of the PEX-C tubing?

A. Yes.

Q. Have you ever had communications with Rex Martin?

A. Very, very, very limited. Not for

any length of time on any specific issue.

Q. So let me kind of maybe focus that. Did you ever have any communications with Rex Martin that related to PEX-C tubing specifically?

A. No, not that I can remember. I don't believe so.

Q. Okay. What about be his wife Alice? Did you ever have any communications with Alice that related to PEX-C tubing?

A. I don't believe so.

Q. Do you know what Larry Smallwood is up to these days?

A. I have no idea what he's doing since he left us.

Q. When did he leave?

A. I don't know the year. I just know that he stayed for maybe a couple of years after the acquisition, but I'm not sure when it was that he left at this point. It's been a while.

Q. Okay. And you haven't communicated with him since he left?

A. No.

Q. A couple people have testified

that he may be fishing somewhere. Do you think that's a possibility?

A. I think anything's possible. I don't know.

Q. I'm just kind of joking with you. Okay. I'm just going to take a second to look at my notes, but I think that may be it for me.

A. Sure.

(Pause in proceedings.)

BY MR. KUHLMAN:

Q. We've talked a little bit about the use of the PER system for tracking warranty claims, right?

A. Yes.

Q. Is there any other system for tracking customer complaints outside of the PER system at NIBCO?

A. The only system that exists is completely entered into the NIBCO SAP. PER system is the tracking system that I had locally at the site. It was initiated prior to the NIBCO acquisition. And also, because the PER numbers, the way they come in, they're not like one, two, three, four, five, but each of my documents have the PER number written on

them. Like I said, my numbering system was the last two digits of the year, hyphen, and then whatever the sequence of the claim was, 01, 02, 03, 04, until however many we had that year. But those documents always reference the PER number and were uploaded into the SAP system so there were no claims that were outside of the SAP system.

Q. Okay. And there were no -- to your knowledge, other than PERs and your tracking document that you were just describing, are there any other ways that customer complaints would be tracked within NIBCO --

A. Not to my knowledge.

Q. -- with respect to PEX-C tubing?

A. Yeah, not to my knowledge.

MR. SHAMBERG: Okay. Those are all the questions I have.

* * *

DIRECT EXAMINATION

BY MR. KUHLMAN:

Q. I have a few follow-up questions. First, you were asked some questions about an exhibit. It's marked as Exhibit 3. Take a

minute and find that. Let me know when you have it.
A. I have it.
Q. So Exhibit 3 references 192,767 feet of defective one-inch white PEX pipe, is that right?
A. Yes.
Q. Was this PEX pipe sold to customers or is this tubing that was identified during a quality control process put in place by NIBCO?
A. Due to the sheer volume of it and the way the memo was written, this would have been something that was put on hold as a response to an internal quality test at the plant.
Q. NIBCO had pressure testing in place to check for problems like this and pinhole-type leaks, is that right?
A. That's correct.
Q. And so those quality control steps actually caught this tubing before it was sold and it ended up being scrapped, is that fair?
A. Yes.
Q. And let me ask you a few questions

about pinhole leaks. Do you remember answering a few questions about those?
A. Yes.
Q. Okay. When would a pinhole leak present itself generally? Is that something that is present at the time of manufacturing or is that something that develops over time?
A. That would be present at the time of manufacturing. It would occur during the beaming process. If there were particular matters or contaminants in the resin itself.
Q. And is that, identifying tubing that has pinhole leaks, is that one of the goals of the pressure testing that NIBCO does?
A. That is correct.
Q. And if tubing is not caught by NIBCO's pressure testing that has a pinhole leak, is that ultimately going to affect the homeowner or is that something that would routinely be caught by pressurizing a system during inspection?
MR. SHAMBERG: Object to form.
THE WITNESS: If a system were pressurized, they should be able to note if there's a leak.

BY MR. KUHLMAN:
Q. And so would that be an issue that would be corrected before a homeowner ever moves into a house?
A. Assuming that there was a pressure test that was conducted, a pinhole leak is a known manufacturing defect. It's one that, like I said, occurs at the time of manufacturing. It's not a defect that three years down the line you would expect to see. You would expect to see it from the start immediately upon installation.
Q. During your time working as the quality coordinator looking at returned PEX samples, can you recall any instances of actual homeowners sending in tubing that had what you would identify as a pinhole leak?
A. I think there may have been one or two, but it was very, very infrequent that we would see that.
Q. And that was over the course of seven years?
A. I mean, since about 2006 is when I had that formal documenting process.
Q. And you were asked a few questions

about the red tubing and testing performed by JANA. Do you remember answering some questions about that?
A. Yes.
Q. And is it your understanding that based on the testing data that NSF had with respect to the red tubing that NSF believed that the pipe -- the red pipe should have been certified?
MR. SHAMBERG: Objection. Calls for speculation.
THE WITNESS: The red pipe was certified. We had, to my knowledge, from, you know, the time of my employment through the end of manufacturing that formulation, we maintained an unbroken listing for red tubing as well as the other colors.
BY MR. KUHLMAN:
Q. And NSF at all times had access to the testing data, is that fair?
A. That's correct.
Q. And NSF interprets that data in assessing the tubing, is that fair?
A. To my knowledge, that's correct.
Q. And NSF concluded that based on

the data it had, NIBCO's red tubing was fit for certification?
A. I mean, I know that they issued the certification to us.
Q. So they certified based on --
A. We had unbroken certification through all those years for that product.
Q. Were you involved at all in filling out the statistical analysis or filling in the numbers on any of the mathematical equations?
A. No.
Q. Other than kind of a general understanding of how that works, can you sit here right now and explain the actual mathematical equation?
A. No. I mean, all of that raw data would have been transferred directly to NSF and then a report would have been generated.
MR. KUHLMAN: Okay. Let go off the record for just a couple of minutes.
(Pause in proceedings.)
BY MR. KUHLMAN:
Q. Ms. Premus, we are back after a short break. I'd like to direct your

attention, if I could, to Exhibit 2. You were asked a few questions about this document earlier. Do you remember talking about this document?
A. Yes.
Q. Okay. And this references an NSF audit and a finding where there was not calibration documentation, is that right?
A. Yes.
Q. And you had requested documentation regarding the calibration from Larry Smallwood, is that right?
A. Yes.
Q. And did he tell you that the documentation didn't exist or was he just simply not providing it, or do you remember right now if you ultimately received those documents or not?
A. At this point I honestly don't remember.
Q. Okay. Was it generally part of your job responsibility to maintain documents associated with calibrating the extrusion equipment?
A. No. That would have been done by

the extrusion department.
MR. KUHLMAN: That's all I've got. We'll reserve the rest for trial.
MR. SHAMBERG: Me, too, I'm done.
MR. KUHLMAN: We will order an e-tran with scanned copies of the exhibits.
MR. SHAMBERG: Ditto.
(Thereupon, signature was not waived.)
(Thereupon, the deposition was concluded at 4:30 p.m.)

I, DEBORAH PREMUS, do hereby certify that the foregoing is a true and accurate transcription of my testimony.

_ _ _ _ _ _ _ _ _ _ _ _ _

Dated _ _ _ _ _ _ _ _ _ _ _ _ _

STATE OF OHIO)
COUNTY OF MONTGOMERY) SS: CERTIFICATE

I, Stacey M. Mortsolf, a Notary Public within and for the State of Ohio, duly commissioned and qualified,

DO HEREBY CERTIFY that the above-named DEBORAH PREMUS, was by me first duly sworn to testify the truth, the whole truth and nothing but the truth.

Said testimony was reduced to writing by me stenographically in the presence of the witness and thereafter reduced to typewriting.

I FURTHER CERTIFY that I am not a relative or Attorney of either party, in any manner interested in the event of this action, nor am I, or the court reporting firm with which I am affiliated, under a contract as defined in Civil Rule 28(D).

IN WITNESS WHEREOF, I have hereunto set my hand and seal of office at Dayton, Ohio, on this 23rd day of December, 2016.

_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
STACEY M. MORTSOLF, RPR, CRR
NOTARY PUBLIC, STATE OF OHIO
My commission expires 5-31-2020

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